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THE UNIVERSITY OF ALBERTA

COPING STRATEGIES OF INFERTILE KENYAN COUPLES

BY

JANE ROSE MUTHONI NJUE

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE
OF MASTER OF SCIENCE
IN
FAMILY STUDIES

FACULTY OF HOME ECONOMICS

EDMONTON, ALBERTA
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Jane Rnjue.
(Student's signature)

P.O. Box 53403 Nairobi, Kenya
(Student's permanent address)

DATE: April 8 /87

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FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled COPING STRATEGIES OF KENYAN INFERTILE COUPLES submitted by JANE ROSE MUTHONI NJUE in partial fulfilment of the requirements for the degree of MASTER OF SCIENCE in Family Studies.

(Supervisor)

Date: Dec. 15/86

DEDICATION

This thesis is dedicated to Leslie Kroening and Peter Braun. Their love, and empathy was instrumental in my self-discovery.

ABSTRACT

The concepts of the coping process, outlined in the double ABCX model, the definition of the situation and the use of resources were used to determine how infertile Kenyan couples cope with infertility. Effectiveness of their coping was also studied of their coping also determined.

The study sample consisted of 20 infertile couples who were attending an infertility clinic in Nairobi, Kenya. These couples were between 20-45 years of age and had lived together as husband and wife for about 2 years. The family related instruments used in the study, namely, Family Coping Strategies (F-COPES) and Family Inventory of Life Events and Changes (File) were adapted to fit the Kenyan context. Trichonomous cross tabulations were used to determine which factors influenced the couples' definition of infertility, couples' use of social and community resources and couples' coping effectiveness.

Results indicate that some infertile Kenyan couples view infertility as disruptive to the family's established structure and patterns of interaction while others view infertility as non-disruptive. The couples in the study cope with infertility by adaptation. Adaptation involves couples' use of social and community resources, such as friends or relatives or even professional counselling to deal with infertility. Although infertile Kenyan couples use social and community resources to cope with infertility they are reluctant to do so as expressed in the low usage of these resources. The last finding is that the couples' definition of infertility does not seem to influence the effectiveness of the coping strategies used.

As this study displayed a variety of inconclusive findings, a number of possible explanations were sought. Implications for further research were also drawn from the findings.

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CHAPTER ONE

Introduction

Problem Background

In many societies, children are not only believed to provide their parents with experiences which are crucial to the development of full emotional and sexual maturity, but they are also believed to affirm one's status in the community by making a boy into a man and a girl into a woman (Goode, 1956). Although such an outlook to having children may no longer be true in North America, the belief that the father and mother roles are a mandatory adjunct to the husband and wife roles still holds in other parts of the world. Children are still seen as providing a cohesive focal point that helps cement a marriage (Veevers, 1980).

In the Kenyan society and in many other societies in Africa, childbearing is still thought to be compatible with self actualization and indeed necessary for it (Potts & Selman, 1979). As such, the social position of married men or women who have children is of greater importance and dignity than that of unmarried men or women or of a married men or women without children (Kenyatta, 1938).

Having children is ~~still~~ seen as a moral imperative for married couples, to assure continuity and stability of the society. Knowing this, virtually all couples in Kenya embark on marriage in the expectation of having children. As Kenyatta says,

> "The desire to have children is deep-rooted in the hearts of both man and woman and on entering

> matrimonial union they regard procreation of children as their first and sacred duty." (1938, p. 164).

Because of the cultural importance associated with childbearing in Kenya and many other countries in Africa, fertility or the ability to procreate is one of the most desirable attributes for both men and women and infertility or reproductive failure one of the worst fates that can befall a man or a woman (Greer, 1984).

By definition, natural children have parents who are fertile so that infertility is outside the experience of their parents (Potts & Selman, 1979). Also since the socialization process prepares the couple to deal with fertility and not infertility, potential fertility is taken for granted. Being totally unexpected, discovery of infertility often comes as a shock to the couple. Couples who are infertile are not only deprived of a major goal of getting married, that is, childbearing, they are also deprived of the social cultural script concerned with having children to carry on the family name and with the continuity of the society.

Dealing with infertility may not be easy for the Kenyan infertile couples since they have had nothing in their socialization process which has taught them ways to do so. For example, there may be much uncertainty as to when infertility should be discussed as an issue, or whether and when action such as seeking medical advice should be taken. Nevertheless infertile Kenyan couples have to deal with infertility in relation to themselves, the significant people in their lives, and the community of which they are a part.

Statement of the Problem

When the usual methods of dealing with demands or problems of everyday life do not work, tension can arise and feelings of discomfort and strain may occur which may result in stress (Moos & Tsu, 1976). Stress is defined as an actual or perceived imbalance between situational demands and personal or family resources (McGrath, 1970; McCubbin & Patterson, 1983; Menaghan, 1983).

In the family studies literature, situational demands are referred to as stressors. A stressor has been conceptualized as a life event or transition, impacting upon the family unit, which produces or has the potential of producing change in the family's social system. Demands on the family unit that are associated with the stressor event are referred to as "hardships" (McCubbin & Patterson, 1983).

Stressors can cause stress or distress in the family. McCubbin and Patterson (1983) define stress "as demand-capability imbalance in family functioning which is characterized by a multidimensional demand for adjustment or for adaptive behavior". Distress on the other hand is defined "as an unpleasant or disorganized state in the family's functioning which arises from an actual or perceived imbalance and which is characterized by a multidimensional demand for adjustment or adaptive behavior." Thus, both stress and distress are concomitants of demand-capability imbalance and distress has the additional connotation of the family's established structure and patterns of interaction being disrupted.

According to Hill (1949) when families are confronted by a stressor, differences in their definition of the stressor's seriousness depend on the way that the stressor and its hardships affect them and on their previous experience with other stressors. McCubbin and Patterson (1983) state that the resources that a family has for meeting the demands of the stressor and its hardships serve to minimize the impact of the stressor and to prevent it from creating disruptiveness or crisis in the family's functioning.

According to McCubbin and Patterson (1983), (a) the stressor event and it's hardships; (b) the family's resources for dealing with the stressor and transitions; (c) the definition the family makes of the situation; and (d) the resulting stress or distress all influence the family's resistance, that is its ability to prevent the stressor event from creating a crisis. Crisis has been conceptualized by McCubbin and Patterson (1983) as a continuous variable or a process denoting the amount of disruptiveness, disorganization or incapacitatedness in the family's functioning. It is characterized by the family's inability to restore stability, and by continuous pressure to make changes in the family structure and patterns of interaction to restore family stability at its prior level or another (higher or lower) level of family functioning.

Therefore demand-capability imbalance may never reach crisis proportions if the family uses its existing resources to redefine the situation so as to resist systemic change or introduce only minimal change and restore the balance or stability in its established structure and patterns of interaction. However, dealing with stress or distress by resisting change or introducing minimal change is only effective in those situations where systemic change is not necessary or where only minimal change is necessary to restore stability in the family's functioning. Dealing with stress and distress by resisting change where the situation demands systemic change is not only ineffective but also may push the family into crisis. Dealing with demand-capability imbalance by resisting change is referred to as adjustment (McCubbin & Patterson, 1983). Change is resisted by the family's use of its own resources.

If the family is unable to use its existing resources to prevent the stressor event or transition from creating disruptiveness in its established structure and patterns of interaction, it is said to be in crisis. In order for a family in crisis to restore balance in its functioning, the family has to make changes in its existing structure and patterns of interaction by expanding its existing resources. Dealing with demand-capability imbalance by introducing systemic change in the family's functioning is referred to as adaptation (McCubbin & Patterson, 1983). Change is introduced by the family's use of expanded resources.

As already stated, whether a family is able to prevent the stressor and its hardships from creating a crisis or not, the family has to cope or to deal with the demand-capability imbalance in order to maintain itself. Coping can be achieved through "adjustment or adaptation". Coping, therefore, can be defined as a strategy for managing stress or distress (McCubbin, 1979). Coping involves behavior that is directed at strengthening internal organization and functioning of the family in order to divert, reduce or eliminate the source of stress and distress (McCubbin, 1979; Pearlin & Schooler, 1978; Pearlin et al. 1981; McCubbin & Patterson, 1983).

Objective of the Study

This study considers the discovery of infertility as the stressor event which creates demand-capability imbalance in the infertile couples' family functioning. Infertility is a stressor event for many couples world wide, but it is particularly so in societies which emphasize pronatalistic values. Such is the case in Kenya.

When a Kenyan couple is faced with an event of discovery of infertility, it has to define this discovery in relation to the effect the discovery has on its family's functioning. That is, whether infertility will disrupt the couple's established structure and patterns of interaction. Then, depending on its existing as well as the available resources, the couple decides on a coping strategy, one it believes will enable the spouses to effectively cope with infertility.

The objective of this study, therefore, is to answer the following questions:

1. How do infertile Kenyan couples define the situation of infertility?
2. How do infertile Kenyan couples cope with the situation of infertility?
3. How effective are the coping strategies employed by infertile Kenyan couples?
4. Does the couple's definition of infertility influence the effectiveness of the coping strategies used?

Delimitations of the Study

The following are considered to be delimitations to this research.

1. The sample used for the study is a convenient rather than a random sample, as such the results of this study must be confined and not

generalized to a larger similar population.

2. Some of the data collected are retrospective and very personal and may therefore be subject to faulty recall and the desire of the participants to comply.

Unit of Analysis

Traditionally, the females have been the focus of infertility studies because the woman was automatically believed to be the infertile partner (Menning, 1977). More recent data suggest that in North America, however, 50% of infertility can be attributed to the males (Wilson, 1980; Menning, 1977; Taymor, 1978).

In Kenya and in most African countries, infertility is still attributed to the woman. Some people even believe that a man should not be told if he is the infertile partner (Potts & Selman, 1979). It is no wonder then that in some areas of Africa and even in Kenya infertility of the woman is considered a just cause to divorce a wife, or to marry a second one (Greer, 1984; Potts & Selman, 1979, Kenyatta, 1938). Societies that encourage such beliefs need to be aware that it is inaccurate to assume that one party is responsible for the infertility when there is an equal probability that either of them is infertile.

In about 15% of the cases a couple has combined infertility, where both male and female contribute to infertility (Hudson, Pepperell & Wood, 1980; Menning, 1977). It is therefore essential that a couple as a biological unit participate in the investigation of infertility, as this would facilitate correct diagnosis and treatment of infertility.

Regardless of who is infertile, both partners are affected by infertility. Nevertheless, it is my contention that the demands that infertility places on the couple, as well as the appraisal of the situation, may vary depending on which partner is infertile. Therefore the unit of analysis of this study will be the couple as a biosocial unit.

Justification for the Study

Desire to do this study has stemmed from the need to fill the gap which exists in the research on infertility. Infertility has two aspects, a medical/clinical and a social-psychological aspect. Though many researchers have studied the medical and clinical aspects of infertility, not as much effort has been put into understanding the social psychological aspects of infertility.

Medical research is quite advanced. Now more than ever, better ways to diagnose and treat infertility have been found. For example, the causes of infertility can be identified in 90% of cases and treated successfully over 50% of the time (Griffin, 1982; Menning, 1981; Bernstein & Mattox, 1983).

Social psychological research is ~~not~~ so well advanced. The last five years have witnessed increased research into the social psychological aspects of intertility (Menning, 1980, 1982, 1984; Bell, 1980; Siebel & Taymor, 1982; Freeman, et al. 1983; Bernstein & Mattox, 1982; Shapiro, 1982; Griffin, 1982; and Denga, 1983). Of the studies that have looked at infertility as a crisis in North America (Menning, 1977; Griffin, 1983; Shapiro, 1982; Bernstein & Mattox, 1982), none has enumerated the specific coping behaviors of the couples involved.

No studies in Kenya have looked at infertility from a social psychological point of view, and, none has focused on the coping strategies of the infertile couples. Studies that have been done have focused on the medical aspects of infertility. This research will look at the coping strategies of infertile couples in Kenya, and the factors that are associated with the use and effectiveness of these strategies in dealing with infertility.

In Kenya, fertility is an expectation and infertility is a most unenviable state. Couples which are infertile have special difficulties, and need the help of knowledgeable and concerned individuals. A study on coping strategies of infertile couples in Kenya has potential benefits and these will be discussed in the following paragraphs.

Understanding factors which influence the coping strategies that are used will shed light on the reason some methods are effective and others are not. Such findings could prove very beneficial to medical, health and family professionals, as well as family life educators in Kenya and the rest of the world, in therapeutic intervention with infertile couples.

By understanding the needs of the infertile couples in Kenya and difficulties that they experience in the process of dealing with infertility, it is hoped that the Kenyan society - the familial, health, religious, educational and political institutions - will be more empathic towards infertile couples. It is also hoped that institutions mentioned above will use the resources at their disposal to help the infertile couples in their effort to cope with infertility.

I believe that this study can contribute to the existing knowledge on infertility, on coping, and on the application of the Double ABCX

Model (McCubbin & Patterson, 1983), which is used in this study to explain the process of coping with infertility. By using the measurement instruments that have been designed for North America on the Kenyan population, the cross cultural application of these instruments will be put to test.

Last but not least, since infertility is an international problem, understanding of how some infertile Kenyan couples cope with infertility may have international application. Other infertile couples in various parts of the world may benefit from the knowledge. Although no two couples are identical and though their situations may be different, infertile couples in other countries can try out the strategies that have proved successful for the infertile Kenyan couples.

CHAPTER TWO: LITERATURE REVIEW

Introduction

The purpose of this review is to examine the relevant literature on infertility and on family coping. It will include the definition of infertility, scope and causes of infertility in Kenya, coping with stress and distress and how infertile couples have coped with infertility.

Definition of Infertility

According to Webster's New College dictionary, infertility, means "not fertile" or "not reproductive" where fertility denotes the ability of a man or woman to reproduce children. Because fertility requires a variable time factor for the fertilization and development of the fetus, the definition of infertility should also have a time element to it. The time factor involves the couple's experience in trying to achieve pregnancy.

A frequently used defintion was proposed by the American Fertility Society (1978). It states that "a marriage is to be considered infertile after one year of coitus without contraception" (p. 10).

According to Taymor (1978) this definition is based upon studies such as those of Triez et al., (1950) who found that in 1,727 planned pregnancies, 90% of the couples achieved pregnancy in the first year and 96% within two years. These data suggest that if a couple has not achieved pregnancy within a year, there is a 90% chance that they are outside the norm and they have a problem that is reducing their fertility. An investigation of such individuals would therefore have an excellent chance of uncovering a significant factor and perhaps a correctable one (Taymor, 1978).

In societies where a couple is expected to have a child within the first year of marriage, conception must occur early. It is therefore a common practice for couples who have not achieved pregnancy within six months to seek advice from medical or family planning personnel.

Some studies however, have cautioned against too early an intervention. In a series of 12 demographic studies concerning length of time required to conceive, Buxton and Southam (1958) found that among 9,595 couples of various environments and economic groups in the United States, 65% achieved pregnancy by the end of the first year. About 85% had achieved pregnancy by the end of the second year but 10% required more than two years to conceive. A study of women in the United Kingdom found that 90% of women stopping contraception to become pregnant had a child within two years; 96% within three years (Versey et al. 1978). These studies show that a couple can be fertile but take longer than two years to conceive.

Medical scientists have used a one year limit for their definition of infertility because as Taymor, (1978) says:

> If patients were considered to have an infertility problem after only six months, a large "cure" rate could be obtained without any treatment (p. 11).

Studies of infertility in Kenya and other African countries have used one year periods as the lower limit for infertility investigation

(Chatfield et al., 1970; Matthews et al., 1981; Giwa-Osgie et al., 1984; Waghmarae, 1972; Mati et al., 1973).

Medical researchers have also included "The failure to carry pregnancy to full term" in the definition of infertility. Where conception has never been achieved, infertility is termed as primary. However, if conception has occurred, even if that pregnancy ended in a spontaneous abortion or stillbirth, and the couple is currently experiencing difficulties in achieving pregnancy, the infertility is referred to as secondary (World Health Organization, (WHO), 1975). Bernstein and Mattox (1982) have defined secondary infertility as the inability to conceive after one or more successful pregnancies.

Demographic studies often define a couple as infertile if the woman reports no pregnancy or live birth within a certain number of years of unprotected intercourse, usually the past one, two or five years (WHO, 1975). These studies refer to the failure to bring pregnancy to full term, as a result of spontaneous abortion or stillbirth, as pregnancy wastage. It is important to note that according to Menning (1977) one spontaneous abortion or stillbirth does not constitute infertility, but this happens when there has been several spontaneous abortions or stillbirths. Menning (1977) argues that repeated miscarriage also constitutes infertility.

For the purpose of this study, therefore, infertility will be defined as the inability of a couple who desire a child to achieve pregnancy after at least one year of attempts to do so.

Couples who experience repeated miscarriages in Kenya may not be regarded as infertile by the general public, who argue that those who conceive at least have a hope. These couples nevertheless have not reproduced and are therefore technically "not fertile".

Scope And Causes Of Infertility In Kenya

Scope of Infertility

Infertility is a wide-spread problem in Kenya and in many other countries in Africa. According to Greer (1984) and the Population Information Program (PIP, 1983), some parts of Gabon have infertility rates of 46.2% while in another part, 31.9% of the female population finishes its childbearing years without a single live birth. In one province in Zaire infertility is 40% and in three other areas it is 37.3%, 36.9% and 33% (Greer, 1984; PIP, 1983). In most parts of the Central African Empire, infertility rates averaged 34.7% while in some parts of the Repulblic of Mali, 25% of women of childbearing age are infertile (Greer, 1984). In Nigeria, infertility is responsible for over half of all the consultations at the specialist gynaecological clinics (Greer, 1984).

The exact statistics of infertility in Kenya are not available but they may be approximately equal to those quoted for the African countries where infertility is estimated to affect 30% of the childbearing population (WHO 1975). As Matthews et al. (1981) states:

> Kenya has one of the highest birth rates in the world. Ironically it has a high infertility rate which is a major public health concern. The magnitude of the problem can be understood by the fact that approximately 60% of all new out-patients at the gynaecology clinic of the Kenyatta national hospital (Nairobi) complain of infertility. (p. 288)

Causes of Infertility

It is beyond the scope of this study to deal with the medical aspects of infertility, as such. The major causes of female and male infertility especially those that relate to Kenya, will be discussed briefly. Also, since the unit of analysis of this study is the couple as a biosocial unit, couple-oriented causes of infertility will be discussed.

Causes of Female Infertility

The major causes of primary female infertility are endometriosis, ovulation disorders and infection. The main causes of secondary infertility (repeated miscarriages) are post-partum and post-abortion infection. All these factors have been isolated as causes of infertility in Kenyan women (Matthews, et al. 1981; Mati, et al. 1973; Chartfield, et al. 1970; Waghmarie, 1972).

Infection however has been cited as the leading cause of infertility in Kenya (Mati, et al. 1973; Matthews, et al. 1981). Infection of the reproductive tract leads to pelvic inflamatory diseases (PID), a condition where the fallopian tubes are wholly or partially blocked thus preventing fertilization and implantation of the ovum thus leading to permanent or temporary infertility.

According to Potts and Selman (1979) and Greer (1984), sexually transmitted diseases are the major causes of PID infection in developing countries. In these countries, increased levels of prostitution and pre-marital sexual activity have been most instrumental in spreading the sexually transmitted diseases.

Use of birth control devices which have been implicated in infertility, namely the pill and the intra-uterine device (IUD), have increased in the developing countries. In Kenya, women who have been on the pill for some time have reported being victims of secondary infertility. The IUD has been identified as a factor in the PID infection, a leading cause of infertility in Kenyan women, (Matthews, et al. 1981; Waghmarie, 1972).

Causes of Male Infertility

According to PIP (1983), the major causes of male infertility is infection. Infection results in urethritis and epididymitis, which lower the sperm quantity. Lowered sperm quantity results in azoospermia, that is, a sperm count of zero, or oligospermia, that is, having a low concentration of sperm in the semen. Conditions of azoospermia and oligospermia make it difficult or impossible for fertilization of the ovum and the result is infertility. In Kenya, and most other developing countries, the most cited cause of urethritis and epididymitis is genital infection which is due to sexually transmitted diseases.

Another major cause of male infertility that has been related to infertility in Kenyan men is vericocele. It is a condition where there is excess flow of blood in the testes. Excess flow of blood interferes with sperm production and the result is a low concentration of sperm in the semen.

Couple Oriented Causes of Infertility

Couple oriented causes of infertility have to be ruled out as a cause for any couple seeking treatment of infertility. Couple oriented causes include ignorance, infrequent sexual relations, sexual dysfunction and improper sexual techniques.

Ignorance. Menning (1977) postulates that some couples may lack information about how reproduction occurs. Sexual intercourse around the time of ovulation would maximize their chances of achieving conception. Couples who do not understand this may fail to conceive. Some religious or cultural taboos prohibit intercourse during the "unclean period" which includes the menses and seven days after. This may cause infertility, in that when the woman ovulates during the unclean days which is the fertile period, she cannot have intercourse and therefore she cannot conceive (Dubin & Amelar, 1972).

Infrequent sexual relations. Some couples have very infrequent sexual intercourse either by mutual consent, health problems, fatigue, incompatable work schedules or by separate living arrangements. The couple may also have impaired sexual desire (Libido) or function because of malnutrition, obesity, age, excessive alcohol consumption, or certain drugs (Menning, 1977; PIP, 1983; Siebel & Taymor, 1972).

Sexual dysfunction. Dysfunction by either member of the couple may result in inability to have intra-vaginal sex. The woman may experience vaginismus, that is, a tight spasms of the vaginal muscles which prevent penile penetration (Menning, 1977). The man may experience premature ejaculation, or impotence, both of which will result in no seminal fluid being deposited in the vagina (Dubin & Amelar, 1982).

Improper sexual technique. Some positions of intercourse can facilitate the movement of the sperm to the cervical area while other methods do not accomplish this well. According to Masters and Johnson

(1975), the "missionary position" where the women lies on her back with the man lying above her delivers the maximum number of sperm to the cervical area.

Age as a Factor in Infertility

Fertility has been found to decline with age (Dercherney & Borkwitz, 1982; Ceros et al. 1982). Demographic studies indicate that the maximum fertility in women occurs at age 24 and declines rapidly after age 30 (Talbert, 1968; McCusker, 1982). Male fertility peaks at age 24-25 and, like the female's, declines rapidly. After age 40, only 22% of men in the childbearing population become fathers (Kistner, 1973; Behrman & Kistner, 1968); McCusker, 1982).

Couples who delay childbearing are therefore faced with a reduced chance of achieving pregnancy and of carrying a pregnancy to full term. In addition, the longer the childbearing period is postponed, the longer the prospective parents are exposed to environmental and occupational hazards that are detrimental to fertility (Bullow & Sullivan, 1982; Bloom, 1981).

Infertility as a Cause of Infertility

As recently as 18 years ago, 40-50% of infertility cases in the United States were thought to be caused by emotional factors. Infertile couples were described as having personal characteristics that resulted in their inability to conceive (Siebel & Taymor, 1982). Due to more understanding of the physical causes of infertility, it is now believed that emotional factors alone contribute to less than 5% of infertility (Taymor, 1978).

Infertility is a problem that does not have an easy solution and it may take years before the couple finds a satisfactory solution. It taxes couples physically, financially and emotionally. According to Taymor (1978), the state of infertility can itself be a factor in infertility. He argues that infertility precipitates emotional responses, and when these emotional factors are added to minor organic problems, the state of reproductive failure is firmly established or continues.

Many people look at the failure to achieve pregnancy as their own personal failure or their failure as sexual beings. These feelings of inadequacy are brought to the infertility investigation. By the time the physician sees the man or woman, the patient may be experiencing feelings of anxiety, anger, depression, guilt or obsession with his or her plight (Menning, 1977). According to Menning (1977) and Taymor (1978), infertility itself plus the investigation and treatment may interfere with normal sexual relationships. Spontaneous love making may deteriorate to sex-on-schedule, and lead to sexual dysfunction which interferes with the fertility.

This is not to say that there are no emotional factors which interfere with the fertility process. Emotional tension has been known to cause anovulation, vaginismus, and impotence, all of which interfere with reproduction (Sandler, 1968; Taymor, 1978).

So far in this chapter, the definition and the causes of infertility have been discussed. Infertility has been defined as the inability of a couple who desire children to achieve pregnancy after one year of attempt to do so.

The leading cause of female as well as male infertility is infection. In females, infection often leads to a blockage of the fallopian tubes. In males infection leads to a lowered sperm quality and quantity. Blocked fallopian tubes and lowered sperm quality and quantity hinder fertilization and infertility results.

In the next section, discussion will focus on coping with stress and distress.

Coping With Stress And Distress

Coping with stress or distress will be discussed in two sections. In the first section the components of the coping process will be outlined. The second section will concern the factors that influence the family's ability to cope with stress or distress.

The Coping Process

As already stated, coping is a strategy and involves behavior directed at strengthening the internal organization and functioning of a family in order to direct, reduce or eliminate the source of stress or distress (McCubbin, 1979; Pearlin & Schooler, 1978; Pearlin et al. 1981; McCubbin & Patterson, 1983). From the definition, it is clear that a family's coping strategy is not created in a single instant but is progressively developed over time.

According to McCubbin et al. (1979), strengthening the internal organization and functioning of the family involves the simultaneous management of various dimensions of family life: (a) the maintenance of satisfactory internal conditions for communication and family organization, (b) the promotion of member independence and self esteem,

(c) the maintenance of family bonds of coherence and unity, (d) the maintenance and development of social support transactions with the community and, (e) the maintenance of some effort to control the impact of the stressor and the amount of change in the family unity. Therefore, coping becomes a process of achieving a demand-capability balance in the family functioning to facilitate family unity and to promote individual growth and development.

Factors That Influence A Family's Ability to Cope With Demand-Capability Imbalance

McCubbin & Patterson (1983) cite two important factors that are critical to family's ability to cope with demand-capability imbalance. These are a) family's definition of the situation and b) the use of expanded family resources and community resources.

Family's Definition of the Situation

Pearlin and Schooler (1978) state that the way an experience is recognized and the meaning that is attached to it, determine to a large extent the threat posed by that experience. Speaking on the same subject of definition, Lazarus (1966) states that the same experience may be highly threatening to some people and innocuous to others depending on how they perceptually and cognitively appraise the experience.

According to McCubbin and Patterson (1983), a family's definition of the situation refers to the way the family perceives the demand-capability imbalance of infertility in relation to its functioning. If the demand-capability imbalance does not disrupt the family's established structure and patterns of interaction, then the family is more likely to experience stress in its functioning and thus define the demand-capability imbalance as stressful or "non-disruptive" to the family's functioning. If, on the other hand, the demand-capability imbalance disrupts the family's established structure and patterns of interaction, the family is more likely to experience distress or disruptiveness in its functioning and thus define demand-capability imbalance as "distressful" or "disruptive" to the family's functioning.

The family's perception of the demand-capability imbalance is influenced by: a) family's resistant or existing resources, b) the amount of demand-capability imbalance, c) previous coping experiences, and d) rational explanation of the stressor.

Family's Resistant Resources

Burr (1973) has defined the family's resistant resources as the family's ability to prevent an event of change (stressor) in the family from creating disruptiveness in the family functioning. McCubbin and Patterson refer to these resources as existing resources because they are already part of the family's coping repertoire, and are crucial to the way the family defines the situation.

If a family has adequate existing resources, it is more likely to use them to cope with demand-capability imbalance of the stressor and thus prevent the stressor from creating disruptiveness in the family's functioning. If, on the other hand, the family does not have adequate existing resources, the stressor is more likely to create disruptiveness in the family's functioning.

Existing resources include family members' personal resources, the family's internal resources and social support in the form of social and community resources. Although McCubbin and Patterson (1983) argue that social support can be used to prevent a stressor from creating disruptiveness in the family's functioning, they also view social support as an expanded resource. They define expanded resources as those new resources that have been strengthened or developed in response to additional demands in the family system arising from a crisis situation as a result of pile-up. Other scholars who view social support as developed resource include Pearlin and Schooler (1978), Pearlin et al. (1981), Palisuk and Parks (1981). In this study social support is viewed as an expanded resource.

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Now the discussion will turn to what constitutes the existing resources. McCubbin et al. (1980), cite two major types of existing resources. They include: 1) the family members' personal resources, and 2) the family system's internal resources.

Family members' personal resources. McCubbin et al. (1980), define personal resources as the broad range of reserves and aid characteristics of individual family members which are potentially available to any family member in time of need. They include:

(1) finances, that is economic well being

(2) education, which contributes to the cognitive ability for realistic demand-capability perception and problem solving skills

(3) health, that is, the physical (or mental) well being which is particularly useful in times of stress as people are more

susceptible to ill health during severe crises and

(4) psychological resources.

Psychological resources reflect personal characteristics of individuals that reside in the self and can be formidable barriers to the stressful consequences of social strain (Pearlin & Schooler, 1978). They include: (a) self-esteem, which refers to the positiveness of one's attitude towards oneself, (b) mastery, which refers to the extent to which one regards their life-chances as being under their own control in contrast to their life being fatalistically ruled.

Pearlin and Schooler (1978) state that psychological resources, which reflect what families "are" in comparison to what they "do" to cope, as being most efficacious to family members facing stressful, especially those events that families feel they have little control over.

Self-esteem as a resource is discussed in this study in detail because it is one of the variables being measured. It is an existing resource which is part of the individual's coping repertoire, and therefore becomes part of the couple's coping repertoire. As such, in this study self-esteem is believed to influence the way the couples define the situation of infertility, as well as the coping strategies that they choose for dealing with infertility.

Self-esteem is a psychological resource. Coopersmith (1967) defines self-esteem as the evaluation which the individual makes and customarily maintains with regard to himself. It expresses an attitude of approval or disapproval and indicates the extent to which the individual believes himself capable, significant, successful, and worthy. In short, self-esteem is a personal judgment of worthiness that is expressed in the attitude the individual holds towards himself (Coopersmith, 1967).

Coopersmith (1967) found that people with high self-esteem are happier and more effective in meeting environmental demands (demand-capability imbalance) than are persons with lower self-esteem. The relevance of self-esteem to coping with everyday demands of life is further expressed by Coopersmith (1967) when he says:

> The overall pattern and frequency of results obtained in our study lead us to believe that self-esteem is significantly related to the individual's basic style of adapting to environmental demands (p. 46).

Differences in styles of responding to the same environmental demand among the persons with high, medium and low self-esteem support the idea that self-esteem plays an important role in coping with demand-capability imbalance. Menning (1977) argues that when individuals with healthy (high) self-esteem are faced with infertility, they are more likely to see the situation as something external and unfortunate that is happening to them and that it has nothing to do with their personality. They try to do what they can to cope with it. Those spouses with negative self-esteem often view the situation as something that they must have caused by their unworthiness. Consequently, they experience guilt and make great effort to atone for their shortcomings. Therefore, the couple in which both the husband and wife have high self-esteem should cope more effectively with infertility than a couple in which both husband and wife have low self-esteem.

Family system's internal resources. Angel (1936) identified two important family resources: family integration (cohesion) and family adaptability. Family integration refers to the family's feelings towards each other or, as defined by Angel (1936), refers to bonds of cohesion and unity running through family life of which common interest, affection, and a sense of mastery are most prominent. Family adaptability refers to the family's capacity to meet obstacles (stressor events) and to shift its course of action without major structural changes in its system (Olson et al., 1979).

According to Olson et al. (1979), adaptability and cohesion serve as the major axes of the circumplex model. Olson and McCubbin (1984) advance the hypothesis that families that are functioning moderately along the dimensions of cohesion and adaptability are more likely to make a successful adjustment to stress (or distress) than those families that are at the extreme ends of the continum. Proper management of family resources has been identified as an important resource for families (McCubbin et al. 1980). Deacon and Firebough (1975) and Paolucci et al. (1977), postulated that, since human and material resources are limited, they must be wisely allocated among multiple goals to meet family needs. Thus, McCubbin and Patterson (1983) postulated that the better the family can allocate its resources, the better is it able to manage demand-capability imbalance in its family functioning. Other family resources that are viewed as existing resources are problem solving ability and effective communication (McCubbin et al. 1980).

Having discussed how existing resources influence family's definition of the situation, the discussion will now focus on the influence of the amount of demand-capability imbalance in the family's functioning.

The Amount of Demand-capability Imbalance

McCubbin and Patterson (1983) argue that because family crises evolve and are resolved over a period of time, families are seldom dealing with demand-capability imbalance of a single stressor and its hardships but with a "pile-up" of stressors and unresolved strains. That is to say, before a family may be able to resolve the demands of one stressor, one or two other stressors may be experienced in the same family and these new stressors create more demands for that family. This is particularly so in the aftermath of a major stressor, such as death, a major role change such as getting married, or a natural disaster. "Pile-up", then, can be defined as the cluster of normative and non-normative life events and their cumulative demands or strains (McCubbin & Olson, 1980).

McCubbin and Patterson (1983) outline five broad types of stressors and strains which contribute to a pile-up in the family system during the coping process. They include: (a) the stressor and its hardships, (b) normative transitions, (c) prior strains, (d) consequences of family efforts to cope and (e) intra-family and intra-social ambiguity.

The Stressor And Its Hardships

When a family is confronted with a stressor event, a set of demands are placed on the family unit which have to do with the effect of that stressor on the family functioning and the hardships of that stressor. Hardships are defined by McCubbin and Patterson (1983) as those demands on the family unit which are specifically associated with the stressor.

Certain events have more hardships than others and therefore have a greater potential to disrupt family functioning than others. For example, death of a husband/father has a greater impact on family than a child's failure in school (Montgomery, 1981). Such a difference in impact stems from the fact that more adjustment is required from the family members in terms of role behaviour change. For example, somebody has to take on the instrumental roles of the father/husband. The children have lost a father while the wife has lost a husband. Although the child's failure in school affects the family, he is the one that has to change most in the family in order to improve his grades.

Normative Transitions

McCubbin and Patterson argue that the demands of the individuals in the family as well as demands of the family unit are not static but they change over time. For example, a man whose wife has just had a baby may derive great satisfaction from a promotion that requires him to spend more time on his job. His family may be making demands on his time as a father which he may no longer be able to give. Such a situation creates a demand-capability imbalance in the family's functioning because the family as a unit needs to change in relation to the husband's promotion and the birth of the baby.

Prior Strains

Most family systems carry with them some residue of strain from unresolved hardships and from earlier stressors. According to McCubbin and Patterson (1983) strains may also be inherent in ongoing roles, and when a new stressor is experienced by the family, these prior strains are exacerbated and families become aware of them as demands in and of themselves.

Consequence Of Family's Effort To Cope

The fourth contributor to a demand-capability imbalance includes stressors and strains which emerge from the specific coping behavior the family may use in an effort to cope with the demand-capability imbalance (McCubbin & Patterson, 1983).

Intra-family and Social Ambiguity

A certain amount of ambiguity is inherent in every stressor since coping with stressors' demands may call for change and change produces uncertainty about the future (McCubbin & Patterson, 1983). McCubbin and Patterson also state that, given the expectation that society will offer guidelines for families coping with crises, it is probable that families will face the added strain of social ambiguity in those situations where needed social prescriptions are unclear or absent.

Therefore, families will define the same stressor event differently if they differ in the amount of demand-capability imbalance resulting from normal transitions, prior strains, consequences of their effort to cope, and in the amount of intra-family and social ambiguity.

Previous Coping Experiences

Another source of variability in the way families define the situation is their previous experience in coping with demand-capability imbalance in their families. According to Hill (1949), Burr (1973), McCubbin and Patterson (1983), a family that has a history of success in handling a demand-capability imbalance is better able to cope than a family that has been unsuccessful. In discussing how previous success in handling a crisis situation may help in handling future success, Koos

(1946) says:

> It seemed that previous experience with crisis was predictive of recovery in a new crisis... But once having been defeated by the crisis the family appears not to be able to marshal its forces sufficiently to face the next crisis event. In other words there is a permanent defeat each time (p. 256).

Rational Explanation of Stressor

Rational explanation of the stressor is the last factor which has an influence on the family's definition of the situation. According to McCubbin et al. (1980), the presence or absence of explanations which help the family to make sense of the stressor, why it has occurred and how the family's social environment can be rearranged to overcome the situation, can make a difference between stressor events which lead to breakdown and dysfunction in families and those which strengthen the family as a unit. A family's outlook can vary from seeing stressors as challenges to be met to interpreting stressors as uncontrollable and a prelude to the family's demise (McCubbin & Patterson, 1983). If a family sees the coping process as an opportunity for growth and enhancement of family functioning, there is a good chance that the coping process will lead to such an outcome. This idea has its foundation in social psychology's "self fulfilling prophecy."

Family's Expanded (or Developed) Resources

A family's use of expanded or developed resources is the second factor that influences the family's ability to cope with demand-capability imbalance in their functioning (McCubbin & Patterson, 1983). Families expand or develop their existing resources because those resources are insufficient to prevent a stressor from creating disruptiveness in their family's system. Thus families use expanded resources to cope with additional demands associated with pile-up or to cope with a crisis situation.

According to George (1980), social support in the form of social and community resources is one of the most important forms of developed resources because families who are able to develop sources of social support, like kin friends and work associates, are better able to recover from crisis and restore stability to their family's functioning.

The discussion will now focus on the mediating effect of social support for families in crisis. According to Pearlin and Schooler (1978), resources refer not to what people do, but what is available to them for developing their coping repertoires. Social and community resources therefore refer to what society has to offer to families or individuals who are faced with stress or distress, to assist them in coping with the demand-capability imbalance in their family functioning. Palisuk and Parks (1981) seem to have this in mind when they define social support:

> "as a set of exchanges which provide the individual with material and physical assistance, social contact and emotional sharing as well as a sense that one is the continuing object of concern by others (p. 138)".

Palisuk and Parks (1981) posit that individuals (or families) have to choose where to obtain social support. This choice is influenced by their personal characteristics, culture, and the availability of resources. Palisuk and Parks suggestion is in agreement with Pearlin et al. (1981) who found that a support system is not necessarily coexistant with a social network, but with the quality of the relationship within the network. In other words, if one possesses a social network of family, friends, and other acquaintances, one is not necessarily the automatic beneficiary of social support. The qualities that Pearlin et al. (1981) name as most critical involve the exchange of intimate communication, and/or the presence of solidarity and trust among the givers and recipients of social support. These conditions for social support seem a prerequisite before an infertile couple seeks support. In Kenya, infertility is usually a very confidential matter and only those people who are very close to the infertile couple would know about it.

Cobb (1976), views social support as information exchanged at an interpersonal level which provides: (a) emotional support, leading individuals to believe that they are loved; (b) esteem support, leading individuals to believe that they are esteemed and valued; and (c) network support involving mutual obligation and mutual understanding, leading individuals to believe that they belong to a communication network involving mutual obligation and mutual understanding. The individuals or families can draw from the above mentioned forms of support when they are in crisis situations.

Social support has also been defined as information diseminated with regard to problem solving and as new social contacts for help. This informational social support includes resources that are set forth by the society for use when families are in need (Granovetter, 1973). For example, service agencies like the Red Cross, churches, libraries, counseling services are sources which a family may contact for information. Such resources are often of great help to families who are in crisis.

Mutual self-help groups are also a form of social support. They have been defined as associations of individuals or family units who share the same problem, predicament or situation and band together for the purpose of mutual aid. Bresnick (1982) found self-help groups crucial in helping infertile couples accept infertility as reality in their lives and in being able to move towards a realistic method of dealing with it.

According to McCubbin et al. (1980) research on the mediating influence of social support for specific stressor events has emphasized the use of social support in contributing to a family's invulnerability to demand-capability imbalance in its functioning as well as to its recovery in crisis situations. It is not surprising then, that McCubbin et al. (1982) view a family's use of social and community resources as a coping behavior or as a coping strategy.

In summary, social support via social and community resources is an important mediating factor for families which are trying to cope with demand-capability imbalance, especially in situations where this imbalance causes a crisis in family functioning. Potential sources of social support include extended families, friends, neighbors, church or religious support, and community support in the form of mutual self-help groups or professional counselling. Whether social support is given or received, however, depends on the relationship between the sources and recipients of social support. A relationship that fosters solidarity and trust and an exchange of intimate communication is most conducive for giving or receiving social support.

Having considered the factors that influence the family's ability to cope with crisis situations, the discussion will now focus on how infertile couples have coped with infertility.

How Couples Have Coped With Infertility

Since this study is the first one to focus on coping strategies of infertile Kenyan couples, in discussing how infertile couples have coped with infertility, I will be referring to the studies done with a sample of North American infertile couples.

In North America, very little research has been done on the coping strategies used by infertile couples. Most of the literature on infertile couples has focused on the emotional and medical aspects of infertility.

Research on emotional aspects of infertility has focused on what the individual feels after discovery. According to Menning (1977), Wilson (1980), Griffin (1983) and Shapiro (1982) these feelings, which include surprise, denial, isolation, anger, guilt, self unworthiness, depression and grief, have to be worked out before the individuals can make a decision on how to deal with infertility.

The authors referred to above, have not indicated how the decision to deal with infertility is made. Even Shapiro (1982), who studied the impact of infertility on the marital relationship, has not focused on the couple's experience of emotions associated with infertility, but has focused on the individuals of a marital relationship.

Research done on the medical aspects of infertility, Taymor (1978), Pepperell et al. (1980), McCusker (1982), focus on what happens when an infertile couple go to a physician with a problem of infertility. There seems to be no literature on what a couple does (not feels) after they discover their infertility (before they visit a doctor). The process through which the couple decides they would like to seek investigation for their infertility or cope with infertility by adoption is not well documented.

We can only deduce that the couples make a decision by considering various alternatives and choosing the one that best suits their particular circumstances. We need more than just deductions by having more research done on the coping process of infertile couples.

Summary

The review of literature on infertility and coping has revealed that the causes of infertility are several. They include infection, couple related factors, and age. Infertility can also contribute to further infertility.

Coping with a stressor is progressively developed overtime. The coping process is influenced by two main factors; the family's definition of the situation and by the resources external to the family that the family can use to cope with the demand-capability associated with the stressor. The review has also revealed that there is little research done on how couples have coped with infertility.

This study is an attempt to understand how infertile couples in Kenya cope with infertility. As such, the next chapter will focus on the progressive aspect of coping as explained in the double ABCX model and applied to the situation of infertility. Also the applicability of factors which influence the family's ability to cope with stress and distress will be discussed in relation to the situation of infertility.

CHAPTER THREE: CONCEPTUALIZATION

Introduction

The double ABCX model by McCubbin and Patterson (1983), based on Hill's ABCX model (Hill, 1949), was developed to look at how North American families deal with stressors, normal transitions, and the crises which result. The model outlines general principles that families use to cope with demand-capability imbalance. Factors that influence the family's ability to cope with stress or distress and resultant crises have also been discussed. For a detailed account of the double ABCX model, the reader is referred to McCubbin and Patterson (1983).[1]

In this chapter, concepts and hypotheses that have been advanced in the double ABCX model, as well as the factors that influence the family's ability to cope, will be integrated to develop a conceptualization of the way that infertile-couples in Kenya cope with infertility. The first section of this chapter will deal with the application of the double ABCX model to the coping of a couple with infertility. The second section will show how stress and coping variables of this study, are used to develop specific research questions that this study will attempt to answer. The last section will present operational definitions of the variables considered in this study.

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[1] The author strongly suggests that the reader use Figure 2 FAAR - Family Adjustment and Adaptation Response (McCubbin & Paterson, 1983) when reading this section of the thesis.

Application Of Double ABCX Model In Coping With Infertility

When a couple is faced with discovery of infertility, a pile-up of demands are placed on the family unit which include:

1. The impact of the discovery, namely the negative feelings or emotions, such as depression, helplessness, loss of control and despair which accompany the discovery of infertility (Menning, 1977).

2. The hardships directly associated with infertility. For example, time, energy, financial strains, and the intrusion into the couple's privacy, which are an inevitable part of diagnosis and treatment of infertility.

3. The prior strains: unresolved stress which may already exist in the family before the discovery of infertility. Because couples usually discover their infertility in the first few years of marriage, prior strains are likely to be the result of typical early marriage adjustment. For example, they may experience difficulties in developing good communication skills or in achieving family consensus on major family issues such as sexuality and finances.

4. Social ambiguity: there is no clear prescription on how infertile couples should deal with infertility because Kenyan society does not offer any guidelines for dealing with infertility.

Definition of the Situation

When a couple is faced with these demands, it defines them in terms of whether they are disruptive or non-disruptive to family's established structure and patterns of interaction. This definition is based on the couple's perception of its capabilities or resources in meeting the demand-capability imbalance, the amount of demand-capability imbalance in its family's system, previous experience in coping and whether infertility can be rationally seen as a stressor.

Adjustment Phase of Infertility

When a couple makes a definition of the situation of infertility, it makes an appraisal of what coping strategy it is going to use. The couple which has defined infertility as non-disruptive, tries to cope with the demand-capability imbalance with minimal change of its established structure and patterns of interaction.

During the adjustment phase, the couple copes with infertility using its existing resources. There are three ways in which a couple could cope with infertility. They are avoidance, elimination, and assimilation. These three ways of coping are referred to as adjustive coping strategies.

Avoidance

When a couple copes by avoidance, the spouses may try to deny and ignore the demands and hardships of infertility. For example, the spouses could deny or ignore the possibility of the physiological causes of their infertility and keep hoping that the problem will go away and that they will sooner or later achieve pregnancy.

Elimination

Elimination is a coping method through which the infertile spouse's make an effort to rid themselves of the demands of infertility by altering their definition of the discovery of infertility. The spouses could do this by convincing themselves or other people that children are not important to them and that they could do without them, while in fact, they would not mind having children.

Both avoidance and elimination types of responses serve to protect the infertile couple from having to make any modifications in its family structure and patterns of interaction.

Assimilation

When an infertile couple copes by assimilation the spouses assimilate the demands of infertility into their family system and, thus, allows only minimal change to the family's existing structure and patterns of interaction is required. For example, an infertile couple would be coping by assimilation if spouses accepted infertility as a permanent state in their lives and decide to live a childfree lifestyle. This way of coping brings only minimal change to the family's system because all that the couple does is to change the goal of having children to that of having none. I am not suggesting that altering a goal is easy, especially a valued goal such as having children. I am merely pointing out that coping this way brings only minimal change to a couple's structure and patterns of interaction.

Implications of Using Adjustive Coping Strategies

Although there are some infertile couples who may use assimilation to cope with infertility, I believe that in Kenya very few would cope by choosing a childfree lifestyle. Most married couples in Kenya want to have children. Besides, the expectation of the Kenyan society is that married couples should want to have children and should do everything within their power to have children. Couples who would cope by choosing a childfree lifestyle would not be regarded as having tried their best to have children. However, this does not mean that infertile Kenyan couples do not live a childfree lifestyle. Where diagnosis and treatment of infertility fails or proves too expensive for the couples and other choices such as those provided by either adoption or surrogate parenting are impossible to attain, the infertile couples then would have to remain childless.

The outcome of using avoidance, elimination and assimilation in coping with infertility is called Adjustment. Adjustment varies along a continuum from bonadjustment to maladjustment. Bonadjustment means that the strategy used to cope with infertility is adequate or effective while maladjustment means that the strategy or strategies used to cope with infertility is inadequate or ineffective. Bonadjustment and maladjustment refer to the couple's relative ability to use its existing resources to respond with a single strategy or a combination of strategies which are most conducive to meeting the demand-capability imbalance arising from the discovery of infertility.

It is important to note that, although the couples who cope by adjustment originally view their existing resources as adequate to cope with demand-capability imbalance associated with infertility, they vary in the amount of existing resources and in the amount of demand-capability imbalance as well as in the amount of family or social ambiguity. These differences may account for differences in the coping strategy used (avoidance, elimination, assimilation) as well as the effectiveness or ineffectiveness of these strategies.

As already stated, during adjustment the couple protects itself from changing its structure and patterns of interaction. One proposition that I would like to make at this point in the discussion is that infertile Kenyan couples do not cope with infertility by choosing to live a childfree lifestyle, a strategy which constitutes coping by assimilation. I propose that if infertile Kenyan couples who cope by adjustment they use the strategies of avoidance and elimination.

However, because of the nature of the demands of the stressor of infertility, Kenyan couples cannot cope with it effectively without introducing major changes in their structure and patterns of interaction. Short term strategies of avoidance and elimination may only work for awhile, but sooner or later, the spouses have to face the fact that if they want children they have to make changes in their family's structure and patterns of interactions which would facilitate their being able to have children. Therefore, coping by avoidance and elimination is ineffective, and infertile Kenyan couples who use these strategies end up in the maladjustment end of the continuum and have to cope by adaptation. Demand-capability imbalance resulting from the discovery of infertility persists, and possibly increases.

The Adaptation Phase of Infertility

The adaptation phase of infertility involves couples use of expanded resources in form of social and community resources to cope with infertility. Couples who have to cope with infertility by adaptation are:

1. Those couples who viewed their existing resources as inadequate to cope with infertility and therefore experienced a disruption in their family's functioning.

2. Those couples who cope with infertility using adjustive strategies of avoidance and elimination. If the couple's existing resources are inadequate to cope with infertility, avoidance and elimination are ineffective coping strategies. These couples have to use expanded resources to cope with infertility.

Couples who use ineffective adjustive strategies of avoidance and elimination have one more strain than couples who cope by adaptation. In addition to the demand-capability imbalance stemming from the discovery of infertility, the hardships of infertility, prior strains, and social ambiguity in coping with infertility, couples who have experienced ineffectiveness in coping have an added strain of failure at coping, referred to in this study as "consequence of trying to cope with infertility".

Coping with infertility through adaptation involves two processes: restructuring and consolidation. Restructuring refers to the couple's initial effort to make structural changes in its family system. An example of structural changes that infertile couples in Kenya could make would include; decision to follow through with diagnosis and treatment of infertility, adoption, bring up a young relative like a niece, nephew or cousin, or surrogate parenthood. Whatever method the couple chooses to cope with infertility, the method has to become part of their family structure. This is the process of consolidation.

Restructuring

Restructuring involves four steps (a) awareness, (b) a shared definition of the situation, (c) search for agreement on the solution and implementation of it, and (d) use of adaptive coping strategies.

Awareness. When an infertile couple experiences demand-capability imbalance in its functioning, there emerges an awareness by at least one of the spouses that their existing structure and mode of interaction are not adequate to enable them to cope with this imbalance. The spouse who is aware tries to share with the other spouse this awareness that change is needed if the couple is to cope with infertility.

Shared Definition. Once the infertile couple is aware that a change is needed, it identifies and arrives at a definition of what aspect of family life will be changed. Change may have to be made in various areas of the couple's life, such as its boundaries, goals, roles, rules, patterns of interaction or its values. For example, if the couple opts for adoption, the goal of having biological children through procreation is changed. Its boundaries will also change because there would be an additional member to be included in the family system.

Search for, agreement, and implementation of solution. Once consensus has been reached on the area of life that needs to change, the spouses search for ways in which they will make the necessary changes. They then agree upon and implement these changes.

Movement of infertile couples through the four steps of restructuring may not occur in the overt and carefully planned way that appears on paper. At times, it may take a long time before a solution is instituted. In Kenya, where male verility is highly valued, and where the woman is usually believed to be the infertile partner whether she is or not, the wife may have to do all the negotiating. Regardless of who negotiates, it may take all of a wife's tact to convince her husband that change is needed in the family structure in its patterns of interaction if a solution to infertility is to be found.

Strain As Consequence of Coping

Adaptive coping strategies may create additional demands in the family system of infertile couples. For example, diagnosis and treatment of infertility may require that sex be performed on schedule for semen analysis and this may be a source of strain for the couple. Also, where treatment of infertility is sought, adjusting the woman's and man's schedules in order to make time for diagnosis and treatment may be a source of strain. Surrogate parenting may create additional stress because the genetic characteristics of the biological parents cannot be controlled. Strain may also be experienced if adoption is chosen because it often requires that the couple go through a long bureaucratic process, thus spending much money and time before they can actually have a child.

Most of these methods take a considerable amount of time and money from couples. An infertile couple may have to lower its standard of living in order to pursue and to afford whatever strategy it has chosen to cope with infertility. Thus, the coping strategy itself is often an additional source of stress or distress.

Success in restructuring for infertile couples will be influenced by the resources that they have. Although all infertile couples who cope by adaptation have to change their established structure and patterns of interaction, it is important to note that these couples vary in the resources they presently have. They also vary in their ability to expand and manage them. Resources influence the infertile couple's progress through restructuring by buffering the impact of pile up (e.g., using resources to resolve problems, by influencing the definition of the situation (e.g., sense of mastery, positive appraisal), and by maximizing solutions available (e.g., problem solving skills) (McCubbin & Patterson, 1983).

Consolidation

Once structural changes have been made, the couple is ready for consolidation. Consolidation involves the couple's attempt to integrate the new change(s) made during restructuring into its system. The couple does this by making additional changes in the family organization and structure which support the newly instituted patterns of behavior.

Consolidation involves the five steps of (a) awareness, (b) sharing life orientation and meaning, (c) making concomitant changes, (d) implementation, and (e) adaptive coping strategies.

Awareness. Although both spouses may have taken part in the decision to implement changes in their family structure in order to cope with infertility, both may not be aware of the extent to which the changes made are incongruous with the family's prior structure and patterns of interaction. Therefore, the spouse who is aware that incongruity exists has to make an effort to develop congruency between the coping strategy, and the family's prior structure and patterns of interaction.

Effectiveness of the coping strategy used to cope with infertility depends on how well it suits the couples needs and the resources available to the couple. For example, if the couple chooses to have an investigation into the causes of infertility and subsequent treatment, their patterns of interaction in terms of time, money and energy have to be geared accordingly.

Shared family life orientation and meaning. The spouses share family life orientation and meaning by making the strategy chosen for coping part of their value system. For example, a couple that chooses surrogate parenthood or adoption may never have supported methods of getting children other than being the genetic parents. However for adoption or surrogate parenthood to be acceptable methods of coping, the spouses must have changed their value system.

Concomitant changes. The couple makes concomitant changes by identifying changes to be made in their family system in order to accommodate the new patterns without upsetting the family's functioning. Thus, a couple may have to decrease the time they spend on the job or with their relatives in order to avail themselves of investigation and treatment. They may decide to stop helping relatives financially in order to use that money towards finding a cure for infertility.

Implementation. The infertile couple implements the newly agreed upon changes by putting them into effect. The couple tries out these newly implemented changes for some time in order to see whether they work for them or not. For example, if a couple decide to pursue treatment of infertility, and then finds out that this method of coping is too expensive in time and money, the couple may then pursue another alternative such as adopting a child or living a childfree lifestyle.

Successful Adaptation

From the discussion it is clear that if their coping strategies are to be effective, infertile Kenyan couples have to cope by adaptation. The discussion will now turn to the components of successful adaptation.

During adaptation, the infertile couple tries to minimize the discrepancy between their demands and resources, and achieve a balance between the demands and resources of a) each spouse, b) the couple as a family unit, and c) the community of which the couple is a part. However, a perfect balance is not the only indication of successful adaptation. The spouses, the couple as a unit, and the community sometimes have to compromise to arrive at a less than perfect fit between their demands and resources.

Couple adaptation, which is achieved by establishing a reasonable fit between demands and resources, is facilitated through adaptive coping strategies of synergizing, interfacing, compromising and system maintenance.

Synergizing. Synergizing is the couple's ability to coordinate demands and resources in order to cope with infertility. Synergizing is impossible without mutual interdependence of the spouses who work to put together and coordinate their needs, perceptions and resources. Through synergizing, the spouses and the couple as a unit meet the demands which arise from infertility.

Interfacing. Interfacing is the couple's effort to achieve a couple-community fit. Changes made in the couple's family structure and patterns of interaction in an effort to cope, are bound to infringe upon a couple's relationship with the community and other institutions in the society to which the couple as a unit is part. Successful adaptation requires that the couple's needs and resources harmonize with community norms and resources. For example, a Kenyan couple would only choose a childfree lifestyle if other methods have failed because opting for a childfree life would be in conflict with societal norms.

Compromising

An infertile couple compromises by realistically appraising its circumstances and being willing to accept and lend support to a less than perfect solution to infertility. It may not be possible for the infertile couple to have children through the method they choose as an alternative to having biological children. For example, if the couple chose to have treatment for physical causes of infertility the treatment may fail and they then have to choose the next best alternative.

System Maintenance

A couple maintains its system by maintaining spouse's morale and each spouses' esteem. The spouses' need to know that as they make changes to cope with infertility there is something, that is, the couple as a unit, which is worth maintaining whether solution to infertility is found or not. It would not be unusual that, when a couple is trying to cope with infertility, it may neglect its expressive function. This expressive function is the maintenance of the ongoing internal support system that sustains the couple as a unit and enhances the quality of life. Extensive lack of attention to the couple's expressive function may result in dissolution of the couple's family system.

Cycles of Adjustment and Adaptation

Infertile couples may not always progress in a direct, linear fashion through the coping process, they may get stuck at one phase and may need to return to an earlier one and work it through again.

So far in this chapter, the process through which an infertile couple goes through in attempt to cope with infertility has been outlined. The couples make various decisions through a careful definition of infertility. By utilizing the available resources they are able to choose from various alternatives, a method of coping which best suits their particular circumstance and one that they can live with.

In the next section, of conceptualization, focus will turn on the stress and coping variables. Relationship of these variables, and how they relate to couples' ability to cope with infertility will be discussed.

Relationship Between Stress/Distress and Coping Variables

This study upholds the mutuality of variables as outlined in the General Systems Theory, Von Bartalanffy (1968). Thus the ideas of dependent and independent variables inferring cause and effect are a bit out of place. Nevertheless, clarification of this research occurs if independent and dependent variables are indicated. It should be remembered, however, that the variables mutually affect each other.

Dependent and Independent Variables

The dependent and independent variables that are under study in this research are outlined below:

Independent Variables	Dependent Variables
Self-esteem	Definition of infertility
Prior strains	Definition of infertility
Self-esteem	Use of social and community resources
Pile-up	Use of social and community resources
Quality of social and Community Resources	Coping Effectiveness
Pile-up	Coping Effectiveness
Definition of infertility	Coping Effectiveness

Couple Typology

Because the unit analysis of this study is a couple, couple typology has been created to look at the uniformity or discrepancy of the spouses in relating the dependent and independent variables. This couple typology consists of three couple categories. The first category is Uniformly High, where both spouses have a high score in a variable.

The second category is Uniformly Low where both spouses have a low score in a variable, and the last category is Discrepant or Non-Consensus where one spouse has a high score and the other has a low score in the variable.

This typology is basic in providing answers to specific research sub-questions that will be raised in this chapter about the relationship between the dependent and independent variables.

Attention will now turn to specific study questions.

Research Question 1

How do infertile Kenyan couples define the situation of infertility?

There are two ways in which definition of the situation is studied in this research. The first way involves the couple's definition of the situation of infertility and the second involves the way the definition of infertility determines the couples coping effectiveness. Definition of infertility is influenced by a) couple's existing resources and b) amount of demand-capability imbalance.

Couple's Existing Resources

The couple's resources influence each spouse's perception of the demand-capability imbalance associate with infertility. According to theory, if a couple has adequate existing resources it defines demand-capability imbalance of infertility as stressful to its family's functioning because it will not disrupt its established structure and patterns of interaction. However, couples who have inadequate existing resources view the demand-capability imbalance of infertility as distressful to its family's functioning because it will cause disruptiveness to its established structure and patterns of interaction.

This study however proposes a third way of defining the situation of infertility called "non-consensus". This occurs if the two spouses are not in agreement as to whether the situation is stressful or distressful. Non-consensus is important to understanding the couple's resources. If the spouse's perceptions of the existing resources for coping with infertility are dissimilar, their actual existing resources may be different, which may contribute to the discrepancy in their defintions.

In this study, self-esteem is the existing resource that will be measured. Since in this study it was not feasible to measure other existing resources, such as education, health, financial status, resources management, problem solving skills, self-esteem was thought to be the most relevant one as it relates to the couple's definition of infertility, as Menning (1977) states,

> When individuals with healthy (high) self-esteem are faced with infertility, they are more likely to see the situation as something external and unfortunate that is happening to them and try to do whatever they can to cope with it. Those individuals with a negative (low) self-esteem often view the situation as something they must have done and have caused by their unworthiness and experience great guilt, wherefore they go to great lengths to atone for it.

Therefore, it is important to see how self-esteem influences couples' definition of the situation so the following question is raised.

Subquestion 1

How does self-esteem influence a couples' definition of infertility?

In order to answer this question, the following possibilities will be considered.

1. Whether spouses with uniformly high self-esteem uniformly define infertility as disruptive, uniformly non-disruptive, or they do not have a consensus.

2. Whether spouses with uniformly low self-esteem uniformly define infertility as disruptive, non-disruptive, or they do not have a consensus.

3. Whether couples with discrepant self-esteem uniformly define infertility as disruptive, non-disruptive, or they do not have a consensus.

Amount of Demand-Capability Imbalance (Prior Strain)

The amount of demand-capability imbalance is the second factor influencing the couples' definition of infertility. Application of the stress and coping theory to infertility suggests that variation in the amount of demand-capability imbalance among infertile couples will be due to differences in a) demands and hardships of the discovery of infertility, b) amount of prior strains, and c) intra-family and social ambiguity.

Since it is not feasible to measure all the three variables, prior strain seems the most appropriate because it is a source of variation in the amount of strain couples experience regardless of the type of stressor.

The following question relating prior strains to the definition of infertility is raised:

Subquestion 2

What is the influence of prior strain on couples definition of infertility?

To answer this question the following possibilities will be considered.

1. Whether spouses with uniformly high prior strains define infertility as disruptive, non-disruptive, or they do not have a consensus.

2. Whether spouses with uniformly low prior strains define infertility as disruptive, non-disruptive, or they do not have a consensus.

3. Whether spouses with discrepant prior strains define infertility as disruptive, non-disruptive, or they do not have a consensus.

Research Question 2

How do infertile Kenyan couples cope with the situation of infertility?

This study will consider two aspects of coping with infertility.

1. Couples' coping strategy through its use of resources.

2. Couples' coping effectiveness.

Couples use of two types of resources, existing and expanded resources result in two types of coping strategies.

Adjustive Coping Strategies

Adjustive coping strategies or adjustment is used by couples who are able to use their existing resources to prevent infertility from creating disruptiveness in their family functioning. According to theory the fact that all the Kenyan couples (the study sample) were seeking treatment, implies that if these couples did use adjustive coping strategies they found ineffective since adaptation involves coping by using expanded resources. Seeking treatment is coping by adaptation since the couples use the services of health professionals.

Adaptive Coping Strategy

According to theory, couples who are unable to stop infertility from creating disruptiveness in their family functioning use expanded resources to cope with infertility. As stated earlier, expanded resources is synonomous with social support, which in this study will be measured as the couples use of social and community resources. However, social and community resources are only a potential source of support. Infertile couples have to choose to use them and decide how much of them to use in order to cope with the demand-capability imbalance of infertility.

The theory states that, the use of social and community resources is influenced by a) the couple's existing resources and, b) the amount of demand-capability imbalance (pile-up) in the couple's family functioning.

Couple's Existing Resources (Self-Esteem)

The couple's existing resources has been discussed on page 52. The following question relating the spouse's self-esteem to their use of social and community resources is raised.

Subquestion 3

What is the influence of self-esteem on the couples' use of social and community resources?

In order to answer the above question, the following possibilities will be considered.

1. Whether spouses with uniformly high self-esteem uniformly use high, low, or discrepant social and community resources.

2. Whether spouses with uniformly low self-esteem uniformly use high, low, or discrepant social and community resources.

3. Whether spouses with discrepant self-esteem uniformly use high, low, or discrepant social and community resources.

Amount of Demand-capability Imbalance (Pile-up)

According to theory, variation in the amount of demand-capability imbalance among couples who use expanded resources, and therefore cope by adaptation is due to differences in a) demands and hardships of discovery of infertility, b) amount of prior strains, c) consequence of trying to cope with infertiliy, d) intra-family and social ambiguity.

As already stated, it is not feasible to measure all of the above mentioned variables in the study. The sources of variation in the amount of demand-capability imbalance among the couples who cope by adaptation and which will be measured in this study are the prior strains and second consequence of trying to cope with infertility. Prior strain is a source of variation in the amount of strain couples experience regardless of the type of the stressor. Consequence of trying to cope with infertility is added strain for the couples who use expanded resources after an ineffective attempt to cope with infertility using their existing resources. Prior strains experienced and the consequences of trying to cope with infertility added together make up the pile-up.

The following question relating the influence of pile-up to the couple's use of social and community resources is raised.

Subquestion 4

What is the influence of pile-up on the couple's use of social and community resources?

To answer the above question the following possibilities will be considered.

1. Whether spouses with uniformly high pile-up uniformly use high, low, or discrepant social and community resources?

2. Whether spouses with uniformly low pile-up uniformly use high, low, or discrepant social and community resources?

3. Whether spouses with discrepant scores in pile-up uniformly use high, low, or discrepant social and community resources?

Research Question 3

How effective are the coping strategies employed by infertile Kenyan couples?

In this study, coping effectiveness refers to the couples ability to ably use social and community resources in order to cope with infertility. Effectiveness in the couple's use of social and community resources is influenced by a) the amount of demand-capability imbalance and b) the quality of social and community resources.

Amount of Demand-capability Imbalance (Pile-up)

The amount of pile-up has been discussed in page 57. The following question relating the amount of pile-up to the couples' coping effectiveness is raised.

Subquestion 5

What is the influence of pile-up on the couples' coping effectiveness?

To answer the above question these possibilities will be considered.

1. Whether spouses with uniformly high pile-up are uniformly effective or uniformly ineffective in coping or do they not have a consensus?

2. Whether spouses with uniformly low pile-up are uniformly effective or uniformly ineffective in coping or do they not have a consensus?

3. Whether spouses with discrepant pile-up are uniformly effective, uniformly ineffective in coping or do they not have a consensus?

Quality of social and community resources support. Quality of social and community resources is the second factor influencing the couples' coping effectiveness. Although infertile couples use various social and community resources, some of them are more useful than others in dealing with infertility. The instrumentality of these resources in coping with infertility can only be assessed by the infertile couples themselves.

Subquestion 6

The following question relating the quality of social and community resources to the couple's coping effectiveness is raised.

What is the influence of the quality of social and community resources on the couples' coping effectiveness?

To answer this question the following possibilities will be considered.

1. Whether spouses with uniformly high quality support are uniformly effective or uniformly ineffective in coping or their effectiveness is discrepant.

2. Whether spouses with uniformly low quality support are uniformly effective, uniformly ineffective in coping or their effectiveness is discrepant.

3. Whether spouses with discrepant quality support are uniformly effective, uniformly ineffective in coping or their effectiveness is discrepant.

Research Question 4

Does the couple's definition of the situation influence the effectiveness of their coping strategies?

In the above question, the definition of infertility becomes the independent variable. The definition of infertility and effectiveness of the coping strategies have been discussed on pages 52 and 58 respectively.

Summary

In this chapter, the process through which couples cope with infertility has been discussed. The Kenyan infertile couples in this study cope by adaptation. Adaptation involves the couples' use of resources outside their ~~family~~'s system. For example use of health and family professionals. These resources are referred to by McCubbin and Patterson (1983) as expanded resources.

The relationship between stress/distress and coping variables have formed the basis of this study's question and subquestions. These questions and subquestions relate the influence of independent variables of self-esteem, prior strain, pile-up, quality of social and community resources on the dependent variables of definition, use of resources and coping effectiveness.

The focus of the study now, will turn to how these variables were measured. Which brings us to the methodology, the topic of the next chapter.

CHAPTER FOUR: METHODOLOGY

The focus of this chapter is the procedure through which the research data was collected. The chapter includes a description of the pre-test study and how the sample for the study was obtained, as well as the measurement instruments and how they were adapted to measure the variables under study.

In the first section the procedure of data collection will be described. In the second section, operational definition of the variables under study will be outlined while the last section will disucss the instruments used to measure the variables under study.

Procedure

Permit to conduct research in Kenya was obtained from the Research Division in the Office of the President of Kenya. Permission to obtain a sample at the Infertility Clinic of the Kenyatta National Hospital was obtained from Professor Mati, Head of Gynaecology and Obstetrics Department, University of Nairobi and from Dr. Senei who is in charge of the Infertility Clinic.

The Sample

The infertile couples who had appointments at the Infertility clinic in the months of March and April 1986 were informed that a study dealing with infertile couples was being conducted at the clinic. They were asked to talk to the researcher if they wanted to hear more about the study.

The couples who showed interest in the study were given a brief description of the purpose and the nature of the study. These couples were also given a letter which explained the activities, expectations as well as the criteria that the spouses had to fulfill before a couple could participate. The spouses had to have lived together as husband and wife for at least two years and they had to be between 20-45 years of age. This age corresponds to childbearing years for most men and women (Potts & Selman, 1979). (See introductory letter in the Appendix.) One hundred Kenya shillings (equivalent to $10 Canadian) was offered to each couple as an incentive to participate. (See introductory letter in Appendix A.)

Data Collection

The couples that fulfilled the criteria and agreed to participate in the study completed a Consent Form and structured questionnaires. The couples were asked to complete the consent form and the demographic questionnaire and hand it in to the researcher before they left the clinic. The spouses were asked to independently complete the other structured questionnaires at home and return them to the clinic one week from the day they received them. This procedure for data collection was done every week until twenty couples had submitted their completed questionnaires. The one hundred shillings promised to participants was given to the couple when both spouses handed in their completed questionnaires.

Problems in Data Collection

Three major problems were experienced during data collection. The first problem involved obtaining the research permit. In order for independent or foreign researchers to conduct research in Kenya, they have to obtain a research permit from the research division of the Office of the President. Application for such a permit however has to be made six months in advance. Being a privately sponsored student in a foreign university, I was placed in the same category as an independent and foreign researcher.

However, since Professor Marangu, Head of Home Economics Department of Kenyatta university had been appointed by the University of Alberta (Faculty of Graduate Studies and Research) to be my research supervisor while in Kenya, I qualified for affiliation with Kenyatta University. The research officers made it clear that though they would give me a research permit without the six months wait, it was only a special favor to me because of the amount of time I had to collect data (3 months). Otherwise affiliation with a Kenyan academic institution only makes the bureaucratic work easier but waiting period for the affiliated and non-affiliated researchers is always six months.

The second problem involved translation of the research material into Kiswahili. Two couples in the sample could read Kiswahili but not English. As such, all the research material had to be translated into Kiswahili. I had to pay somebody 45 dollars to translate since I am not very fluent in Kiswahili. Translating the research material was costly in terms of time because I had to wait for three weeks for the translation to be completed. Moreover, I had to transfer the answers on the Kiswahili questionnaires to the English questionnaires.

There was a problem involving one couple where the spouses could not read either English or Kiswahili. They spoke Kikuyu. The Kikuyu dialect is similar to my own dialect (Kiembu), so I read for them the questions in Kikuyu and then worte the answers on the English questionnaire.

The last problem concerns the refusal rate. Three couples who had agreed to participate and had signed the consent from failed to return their completed forms. When I contacted them, they said that they had decided not to participate in the study, after going through the questionnaires. They were not willing to answer some of the questions that they felt were rather personal. I had to go back to the infertility clinic and get three more couples to replace those who had opted out.

One comment though, is that it was more difficult to convince the male spouses to participate in the study than the female spouses. An encouraging note about the study is that obtaining a study sample was not as difficult as I had anticipated.

Having described the procedure through which data was collected, I will now give the operational definition which outlines the variables being measured and the instruments that are used to measure them.

Operational Definitions

Couple effectiveness: Is measured by coping effectiveness scale adopted from the Problem Solving Effectiveness Scale whose concepts were proposed by Klein & Hill (1979). (See Appendix J.)

Definition of Infertility: Is measured by Adapted Family Coping Strategies (Adapted F-COPES): The Definition Scale. (See Appendix E.)

Prior-strains: Are measured by Adapted Family Inventory of Life Events and Changes (Adapted FILE): The Prior Strain Scale. (See Appendix G.)

Pile-up: Is obtained by adding scores of the Prior Strain Scale and the scores of Consequence of Coping Scale. (See Appendix G and H.)

Self-esteem: Is measured as the Culture Free Self-Esteem Inventory for Adults, developed by Battle (1981). (See Appendix D.)

Strain as a Consequence of Coping with Infertility: Is measured by Adapted Family Inventory of Life Events and Changes (Adapted FILE): The Consequence of Coping Scale. (See Appendix H.)

Quality of Social and Community Resources: Is measured by the Adapted Family Coping Strategies. (See Helpfulness in Appendix F.)

Now the discussion will focus on a detailed account of each of the scales used above.

Measurement Instruments

The structured questionnaire was composed of three sections: (a) the demographic information, (b) self-esteem instrument, and (c) family related instruments.

The specific self-esteem and family related instruments are described in detail.

Self-Esteem Instrument

The Culture Free SEI for Adults. The Culture Free Self-esteem

Inventory for adults was chosen to measure self-esteem of infertile couples. It was chosen because it is short and easy to take and demonstrates a sufficient degree of reliability and validity. It was also chosen because it is a culture free instrument.

In the test-retest (Battle, 1981) found that the Pearson's correlation for all subjects was .81 while that for the males and females was .79 and .82 respectively. While subscales correlation were .82 for the general, .56 for social and .78 for personal. Intercorrelations of the subscales in the test-retest yielded .78 for general, .57 for social and .72 for personal. They were all significant at .01 level.

Battle (1981), states that content validity of the inventory was established by developing a construct definition of self-esteem and by writing items intended to cover all areas of self-esteem construct. The content validity was also introduced to the instrument by including items from other measures of self-esteem especially from the most widely used, Coopersmith Self-esteem Inventory (Coopersmith, 1967).

According to Battle (1981) concurrent validity of culture free SEI for adults is demonstrated when he found that depression was associated with low self-esteem. He states that self-esteem and depression are significantly different at 01 level, for the total sample -.55 for the males -.53 and -.56 for the female. These data indicate that as self-esteem increases depression decreases.

Predictive validity of the scale has been demonstrated in therapeutic intervention (Battle, 1981). When depressed individuals enter therapy, their self-esteem is generally low as measured by culture free SEI for adults but as their depression decreases through counselling their score on the culture free SEI increases.

The Culture Free SEI for Adults contains 40 items and four subscales which include (a) general self-esteem items, (b) social self-esteem items, (c) personal self-esteem items, (d) lie items (items which indicate defensiveness).

This study used the first three subscales which consist of 32 items intended to measure an individual's general personal, social and personal perception. The items are divided into two groups those which indicate high esteem and those which indicate low self-esteem. The individual checks each item either yes or no.

Scoring and Classification

The self-esteem score is derived by totalling the number of items checked with high esteem. The total possible self-esteem score is 32. Battle (1981) classified self-esteem depending on the points scored as follows, 30 and above as very high, 27-29 as high, 20-26 as intermediate, 15-19 as low and 14 and below as very low.

In this study, self-esteem scores of spouses are divided into two classes, high and low. These two classes are derived by combining Battle's scores of very high, high, and the upper half of the intermediate self-esteem scores into one class of high, and combining Battle's scores of very low, low, and the bottom half of the intermediate score into one class of low. In other words finding the mean self-esteem score and placing spouses above or below the mean depending on their scores.

Couple self-esteem scores are classified as follows: (a) uniformly high, where both the husband's and wife's self-esteem score are high, (b) uniformly low, where both the husband's and wife's self-esteem score are low, (c) discrepant, where one spouse's score was high and the other spouse's score was low.

Family Related Instruments

Family related instruments include:

1. Adapted Family Coping Strategies (Adapted F-COPES)
2. Adapted Family Inventory of Life Events and Changes (Adapted FILE)
3. Coping Effectiveness Scale

Pre-Test Study

The aim of the pre-test study was to test the suitability and cultural relevance of the family related instruments for the study sample. It was necessary to test suitability of these instruments because they were all designed for the North American population and were going to be used for the first time in Kenya. The pre-test study was done with six infertile couples, obtained through a snowball method. After extensive discussion with the six couples, recommendations for change were made regarding Adapted FILE.

First, in order to use FILE to measure prior strains, the questions had to be reworded to fit the time frame and second the questions beginning with "A family member" be changed to read "Your spouse".

After these changes I considered the family related instruments suitable for use by the study sample.

Family Coping Strategies F-COPES

According to Olson et al. (1982) F-COPES was designed for the purpose of assessing the family's problem-solving approaches and behavior in response to problems or difficulties (and crises) since infertility is such a one, the scale was considered appropriate for this study.

Adapted Family Coping Strategies (F-COPES)

The scale of family coping strategies is modified in order (a) to assess the way infertile Kenyan couples define the situation of infertility, (b) to determine the couple's use of social support through their social and community resources and (c) to determine the quality or helpfulness of the social and community resources.

Changes Made in F-COPES

Four main changes were made in F-COPES. The first change involves the use of F-COPES as a total scale. McCubbin et al. 1982 created F-COPES to identify effective problem solving approaches and behavior by assessing two aspects of family coping: (a) the way the family defines the situation and (b) the family's use of social and community resources. According to Olson et al. (1982) the family's definition of the situation and its use of social and community resources are used as a total scale to assess one variable, the variable of coping behavior or the coping strategy.

In this study, however, definition of the situation and the use of social and community resources are not used as a total scale. The couple's definition of infertility is measured using the subscales of reframing and passive appraisal and the couple's use of social and community resources is measured using the social support subscales of Extended family, Friends, Neighbours, Spiritual and Community resources. The Adapted F-COPES subscales which will assess the couples' definition of infertility will be referred to in this study as "The Definition Scale" and that which will assess the couple's use of social and community resources will be referred to as "The Social Support Scale".

The second change made in F-COPES concerns the use of subscales of the initial and final F-COPES Instrument developed by Olson et al. (1982). The Social Support Scale uses the subscales of the initial F-COPES Instrument which assesses the use of social and community resources. The Definition Scale uses the subscales of the final F-COPES Instrument which deal with the family's definition of the situation.

The third change that has been made regards the subscale of the final F-COPES Subscale that deals with the definition of the situation. In the creation of the definition scale, two items were added, one item was eliminated, and two subscale names were changed. The two items that were added are item number 8 and 11 (see Appendix G). These two items reflect the definitional aspects of avoidance and elimination which are important coping strategies. The item that was eliminated is item number 12, watching television. Since most Kenyan families do not have a television set, the item was considered irrelevant for infertile Kenyan couples. The two subscale names that were changed are "Reframing" and "Passive Appraisal". Since the definition of the stressor is made in relation to whether it disrupts family's established structure and patterns of interaction, the new terms, "disruptive" and "non-disruptive" replaced reframing and passive apprisal respectively.

The last, but certainly not the least, change made in F-COPES is in connection with the responses to the items in the scale. F-COPES requires that respondents indicate how well the statement describes their attitudes and behavior in response to problems or difficulties. In this study however, "doing the behavior" was not considered sufficient in assessing the use of social and community resources. In addition, to responding whether the behavior was done, respondents were also asked to indicate "how many times the behavior was done". Thus a response of "1" indicated that the behavior was not done, if they responded "2-4", they would essentially be saying the behavior was done, the number of times indicated (See Appendix F).

Having discussed the changes made in F-COPES, I will now focus on the content, scoring, classification, reliability and validity of the adapted F-COPES scales, the Definition Scale and the Social Support Scale.

The Definition Scale

The definition scale is used to assess the couples definition of infertility. It consists of 13 items and of two subscales, the disruptive subscale and the non-disruptive subscale. Spouses were asked to respond to the 13 items by ranking them from 1-5 depending on how well they thought they could handle the situation of infertility. Items were scored by being given the value of the response. (Scores were reversed for those items that reflect the non-disruptive aspect of definition).

Couple scores were classified by placing them above or below the midpoint of possible value of the scale. The midpoint has been used in this study as the cut-off point in all scales because it eliminates the possible bias resulting from the characteristics and the type of sample used. Eliminating sample bias is another attempt to maintain the reliability and validity of all the family related instruments used in the study.

The couple's definition of infertility was classified as (a) "non-disruptive" if both the husband's and wife's score was below the midpoint, (b) "disruptive" if both husband and wife score was above the midpoint, (c) "non-consensus" if one of the spouses score was above the midpoint and the other spouses score was below it.

Reliability and Validity of the Definition Scale

The addition of 2 items and the removal of the additional one item of F-COPES to create the Definition Scale, may have altered its reliability and validity values computed by McCubbin et al., (1982). Except for content validity done in the pre-test study, the reliability and validity measures of the Definition Scale have not been determined.

The Social Support Scale

The social support scale assess two variables.

1. The use of social and community resources and,
2. The quality of these social and community resources.

The scale consists of 18 items and five subscales which refect the sources of the social and community resources. They are (a) extended family, (b) friends, (c) neighbours, (d) spiritual, and (e) community resources.

All items of the social support scale reflect the use of social and community resources by asking the spouse to respond, 1-5, on how many times they used these resources mentioned. The items also reflect the quality of social and community resources by asking the spouses to respond, 1-5, (with scores reversed) to how helpful they felt the social and community resources were (See Appendix H).

Total use and total quality of social and community resources is found by adding the use and the quality from all subscales.

Classification of couples was done by placing the spouses score above or below the midpoint of possible value of scale. A couples use and quality of social and community resources was classified as (a) uniformly high, if both spouse's scores were above the midpoint; (b) uniformly low, if the spouse's scores are below the midpoint; and (c) discrepant, if one spouse's score was above the midpoint and the other spouses score was below it.

Reliability and Validity of Social Support Scale

Since the social support scale has used the identical and items subscales of the initial F-COPES Instrument which assess the use of social and community resources, reliability and validity values computed of those subscales by Olson et al. (1982) will be given.

Reliability

According to Olson et al. (1982) the test-retest of the initial instrument was done four weeks apart. It yielded Pearsons correlation of .72 for extended family, .69 for friends, .85 spiritual resources, .67 for neighbours and .62 for community resources.

The internal consistence or Cronbachs alpha reliability was .86 for extended family, .74 for friends, .79 for neighbours, .87 for spiritual and .79 for community resources (Olson et al. 1982).

Validity of F-COPES

Content Validity. Olson et al. 1982 state that content (face) validity of the initial F-COPES scale was ensured by extensive literature review by the research team of three members who have done extensive research on family stress and coping. Key items which were highlighted in the coping literature were included as well as items from other coping scales and new items which the research team considered important for coping. Content validity of the social support scale was also done for a Kenyan sample during the pre-test study.

Construct Validity. Factor analysis with a varimax rotation was done on the 49 items of the pilot instrument. Eight strong factors emerged which became the subscales of the initial F-COPES Scale. Five of these eight subscales are used in this study. The 49 items of the pilot instrument were reduced to 29 items which had factor loadings greater than .38.

Family Inventory of Life Events and Changes (FILE)

According to Olson et al. (1982) FILE was designed to assess accummulation of life events and changes that could be a source of strain for the families. FILE consists of 71 items grouped into 9 subscales, which are: (a) Intra-family strains, (b) Marital strains, (c) Pregnancy and childbearing strains, (d) Finance and business strains, (e) Work and family strains, (f) Illness and family care strains, (g) Loses, (h) Transitions in and out, (i) Family legal violations.

Adapted Family Inventory of Life Events and Changes (Adapted FILE)

For this study an Adapted version of FILE is used to measure two variables: (a) prior strains, strains in the family system of couples before the discovery of infertility, and (b) strain as a consequence of coping with infertility.

Changes Made In FILE

Three main changes were made in FILE. The first change involves the exclusion of a whole subscale and of items from other subscales. Since the sample for this study is made up of infertile couples, the subscale on Pregnancy and Childbearing strains is excluded altogether. Other items which deal with parent-child conflicts are also excluded. Some items which reflect North American culture were also excluded, (See Appendix I.)

The second change made in FILE regards the scoring of items. Each item in FILE has a standardized weight which reflects the magnitude of change or the amount of adjustment a family requires if it experiences that event. By summing up the weights for each change that happened in the family, the total life change can be obtained.

Since the standardized weights were developed using a North American population, and adapted FILE was used with a Kenyan population, the weights may not apply. An event of change that may be heavily weighted in North American may not be as heavily weighted in Kenya and vise versa. Therefore, to compute total scores for prior strains of infertile Kenyan couples, and strain as a consequence of coping with infertility, raw scores were used.

The subscales of Adapted FILE which assess prior strain of infertile Kenyan couples in this study will be referred to as "The Prior Strains Scale" and those which assess strain as a consequence of coping will be referred to as "The Consequence of Coping Scale".

The Prior Strains scale has 35 items and the Consequence of Coping has 25 items. The subscales and the items of FILE that are included in both these scale are shown in the appendix. In both of these scales spouses were asked to respond yes or no if they had experienced the events outlined. Yes was given a value of 1 and No a value of 0.

Classification of couples was done by placing the spouse's score above or below the midpoint of the possible value of "The Prior Strain Scale" and "The Consequence of Coping Scale". A couple was classified as (a) uniformly high if both spouse's score were above the midpoint, (b) uniformly low if both spouse's score were below the midpoint and, (c) discrepant if one spouse's score was above the midpoint and the other spouse's score was below it.

Reliability and Validity of Adapted FILE: The Prior Strain and The Consequence of Coping Scale

The exclusion of items and of an entire subscale from FILE, in creating the Prior Strain Scale and the Consequence of Coping Scale may have altered the reliability and validity values computed for FILE Olson et al. (1982). Except for the content validity done during the pre-test, reliability and validity of Adapted FILE has not been determined.

Summary

In this chapter the procedure through which the data was collected has been described. The variables under study and the instruments used to measure them have also been outlined in the operational definitions. The measurement instruments have also been discussed in detail. They include, the Culture-Free SEI for Adults, Adapted F-COPES, Adapted FILE and Coping Effectiveness Scale.

The next chapter deals with the findings obtained from the use of the instruments described above.

CHAPTER 5: RESULTS

The results of the study will be presented as answers to the research questions posed in chapter one and to the subquestions posed in chapter three. However, scores on the study variables will be reported generally first.

Results in General

This study looked at eight variables. Three of these, namely the definition of the situation, the use of social and community resources and coping effectiveness are dependent variables. The other five variables which include self-esteem, prior strain, pile-up, quality of social and community resources, and definition of infertility are independent variables.

The individual spouse scores on all eight variables are shown in Table 1, (see Appendix K). Neither the male nor the female scores are significantly higher or lower on any one variable.

The summary of the scores, that is the minimum score, the maximum score, the mean score and the standard deviation of both males and females are shown on Table 2, (see Appendix L). As expected, the minimum self-esteem score as well as the mean self-esteem score for males is higher than for females. On the other hand, the maximum prior strain score as well as the mean prior strain score for females is higher than for males. Also the mean use of social and community resources is higher for females than for males.

Answers to Research Questions

Research Question 1

How do infertile Kenyan couples define the situation of infertility?

As shown on Table 3, (see Appendix M) 40% of the couples (n = 8) uniformly defined infertility as disruptive, 45% of the couples (n = 9) uniformly defined it as non-disruptive while 15% of the couples (n = 3) did not have a consensus on whether infertility is disruptive or non-disruptive to the family's established structure and patterns of interaction.

Subquestion 1 and 2: What is the influence of self-esteem and prior strain on the couples definition of infertility.

The percentages of the couples in various self-esteem and prior strain categories of uniformly high, uniformly low, and discrepant who uniformly defined the situation of infertility as disruptive, non-disruptive or who did not have a consensus are shown on Tables 4 and 5 (see Appendix N).

A larger percentage 66.7%, of spouses with uniformly low self-esteem uniformly defined infertility as disruptive compared to the 44.4% of spouses with discrepant self-esteem scores and 20% of the couples with uniformly high self-esteem who defined infertility as disruptive. Of couples with discrepant self-esteem scores 55.6% uniformly defined infertility as non-disruptive. This percentage is higher than that of couples with either uniformly low (16.7%) or uniformly high (40%) self-esteem.

Of couples with uniformly low prior strain, 66.7% uniformly define infertility as non-disruptive. This percentage is three times higher than that of couples with discrepant prior strain scores, and six times higher than that of couples with uniformly high self-esteem who uniformly defined infertility as disruptive.

Of the couples who defined infertility as uniformly non-disruptive, 87.5% have uniformly low prior strain while 12.5% have discrepant prior strain scores.

Research Question 2

How do infertile Kenyan couples cope with the situation of infertility?

Kenyan infertile couples cope with infertility by adaptation, that is, by using expanded resources in the form of social and community resources. However, there is a variation in the way these couples use these resources. Most couples, that is 90% of the couples (n = 18), uniformly indicated a low use of social and community resources. Ten percent of the couples (n = 2) are discrepant in their use of social and community resources. No couples uniformly use high social and community resources.

Subquestion 3 and 4: What is the influence of self-esteem and the amount of pile-up on the couples' use of social and community resources?

The percentages of the couples in various self-esteem and pile-up categories of uniformly high, uniformly low and discrepant who used uniformly high, uniformly low or discrepant social and community resources are shown in Tables 6 and 7 (see Appendix O).

One hundred percent of the couples with uniformly low self-esteem uniformly use low social and community resources. This percent is higher than that of couples with uniformly high self-esteem who uniformly used low social and community resources. An equal percentage

50% of couples with discrepant and with uniformly high self-esteem scores use discrepant amount of social and community resources.

Eighty-six point seven percent of couples with uniformly low pile-up used low social and community resources. While 100% of the couples with uniformly high pile-up did. Thirteen point eight percent of the couples with uniformly low pile-up used discrepant amounts of social and community resources.

Research Question 3

How effective are the coping strategies employed by infertile Kenyan couples?

As stated above, the infertile Kenyan couples in the study cope by using expanded resources in the form of social and community resources. Therefore the question here is: how effective is the couples' use of social and community resources in coping with infertility? Table 3 shows that 30% of the couples (n = 6) uniformly describe their coping strategies as effective. Ten percent of the couples (n = 2) uniformly describe their strategies as ineffective, while 60% of the couples, (n = 12) do not have a consensus as to whether their coping strategies are effective or as ineffective.

Subquestion 5 and 6: What is the influence of the amount of pile-up and the quality of social and community resources on coping effectiveness?

The percentages of couples in various pile-up and quality of social and community resources categories of uniformly high, uniformly low and discrepant and how they viewed the effectiveness of their coping strategies are shown on Tables 8 and 9 (see Appendix P).

Of the couples who did not have a consensus whether their strategies were effective or ineffective, 83.3% of them (n = 10) had uniformly low pile-up while 16.7% (n = 2) had discrepant pile-up scores. Fifty percent of the couples with uniformly low pile-up uniformly described their coping strategies as effective. This percentage is higher than that of couples with discrepant pile-up scores and twice that of couples with uniformly high pile-up who described their coping as effective.

Of couples with uniformly low quality of social and community resources, 88.5% did not have a consensus as to whether their coping strategies were effective. This percentage is much higher when compared to 37.5% of couples with discrepant quality of social and community resources 16.7% of the couples with uniformly high quality of social and community resources who did not have a consensus whether their strategies were effective or ineffective.

Of the couples who uniformly described coping strategies as effective, 16.7% had uniformly low, 50.0% had discrepant, and 33.3% had uniformly high quality of social and community resources.

Research Question 4

Does the couples' definition of infertility influence the effectiveness of the coping strategies used?

The percentages of the couples who define infertility as disruptive, non-disruptive or who do not have a consensus regarding the way they view coping effectiveness are shown on Table 10 (see Appendix Q).

Of the couples that define infertility as uniformly disruptive, 66.7% uniformly described their coping strategies as effective. This percentage is twice that of couples who uniformly define infertility as non-disruptive.

Of couples who uniformly define infertility as disruptive, 11.1% uniformly described their coping strategies as ineffective. This percentage is slightly lower than that of couples who defined infertility as disruptive and described their coping strategies as ineffective.

Of the couples who did not have a consensus whether their strategies are effective or ineffective, 33.3% uniformly defined infertility as uniformly disruptive, 41.6% as uniformly non-disruptive and 25% did not have a consensus whether infertility was disruptive or non-disruptive.

In this chapter, the findings of the study have been presented as responses to the research questions and subquestions. In the next chapter, I will give possible explanations to those findings.

CHAPTER 6: DISCUSSION

Introduction

The objective of the study was to find out how infertile Kenyan couples cope with infertility using process concepts of coping advanced in the double ABCX model (McCubbin & Patterson, 1983). The concepts of "definition", "coping strategies" and "social support" were especially important in my attempts to find (a) how infertile Kenyan couples define infertility, (b) how infertile Kenyan couples cope with infertility, (c) how effective their coping strategies were, and (d) how the definition of infertility affects coping effectiveness. Inquiry was made into the applicability of the double ABCX model to the situation of infertility and the results of that inquiry will also be discussed.

The answers to the research questions and subquestions will provide the format of the discussion. A section on the limitations of the study, the study's contribution to research as well as recommendations for further research will be included.

The Couples' Definition of Infertility

Most of the couples, 85% (n = 17), had a consensus on whether infertility was disruptive or non-disruptive to the family's functioning. This finding concurs with the double ABCX model in which McCubbin and Patterson (1983) state that when faced with a stressor, families can view the event as disruptive or non-disruptive to the established structure and patterns of interaction.

The possible explanation of this finding has to do with the place of children in the couples' lives. If spouses have planned their lives around having and raising children, discovery of infertility would be disruptive to the family's anticipated structure and patterns of interaction. Such couples would uniformly define infertility as desruptive. If on the other hand, a spouse's life is not organized around having children, at least not until they are born, as such, infertility would be defined as non-disruptive to the family's functioning.

Another explanation of why couples could have uniformly defined infertility as non-disruptive is that spouses may not have grasped the full implication of infertility on their established structure and patterns of interaction. According to Menning (1977) it may take a long time before spouses accept the reality of infertility and the effect it has on their lives.

The Influence of Self-esteem and Prior Strain on the Definition of Infertility

Self-esteem

The results show that the lower the spouses' self-esteem, the more likely they are to view infertility as disruptive to their family's functioning. In the Kenyan society people who have children are more socially respected than those who do not have children. Also, having children is viewed as a great accomplishment. Since self-esteem is one's feelings of self-worth, where such feelings are low, bearing children may be used as an attempt to enhance feelings of self worth. With the discovery of infertility, spouses with low self-esteem are robbed of this opportunity and hence uniformly define infertility as disruptive.

On the other hand, although spouses with high self-esteem may want to have children, they may not view childbearing as an opportunity to enhance their feelings of self-worth. As such, they do not view infertility as disruptive to their lives, and thus uniformly define infertility as non-disruptive.

Prior Strain

The effect of prior strain on the couples' definition of infertility is difficult to determine because almost an equal percentage of couples with uniformly low prior strain uniformly defined infertilty as disruptive (37.5%) as those who uniformly defined it as non-disruptive (43.5%). It may be that the amount of prior strain the family has does not influence its definition of infertility. Further study should be done to confirm or to disconfirm this proposition.

Couples' Coping Strategies

In the double ABCX model, McCubbin and Patterson (1983) postulate that couples who define a stressor as non-disruptive use the coping strategy of Adjustment. This strategy involves couples' use of existing resources to deal with infertility. This study neither supports or refutes this proposition due to the fact that the study data were collected when all couples in the sample were coping by using expanded resources (adaptation), and not existing resources (adjustment). All the couples in the sample were seeking medical treatment. According to theory if couples define the stressor as non-disruptive, they cope by adjustment. Since 20% of the couples in this study defined infertility as non-disruptive, they must have found coping by adjustment ineffective and decided to cope by adaptation.

Use of Social and Community Resources

At the time data for this study was collected, all couples were coping by adaptation, that is by using social and community resources. 90% of the couples (n = 18) however reported low use of social and community resources.

Low use of social and community resources can be explained by the fact that, in Kenya, an infertile person is looked upon as a failure. Spouses may therefore decide not even to seek help so other people may not know of their "misfortune" and then label them as failures. Infertility is usually kept a secret as long as the couple has a hope of having children. Such a hope exists as long as the spouses are undergoing investigation and treatment of infertility.

Another explanation for low use of social and community resources is that the relationship of the sources and the recipients of social support may not foster solidarity, trust and an exchange of intimate communications. Such a relationship according to Pearlin et al., (1981) is necessary before support can be sought or given.

Another reason why infertile couples may be reluctant to use social and community resources is that discovery of infertility brings with it negative emotions such as self-doubt about one's sexuality, self-blame or sometimes guilt (Menning, 1977). Spouses who are infertile are usually very sensitive to the remarks and comments of other people and especially those who are dealing directly with the infertile spouse. Remarks made by those who give support such as health or counselling professionals, or even by relatives or friends, may be taken to be ridicule. This may discourage the infertile couple from seeking help from that particular source again.

Low use of social and community resources reported by the infertile couples may also be a reflection of the inadequacy of the instrument to measure use of social community resources. The scale used may not have tapped the type of social and community resources used by infertile couples in general or in Kenya for that matter.

Influence of Self-esteem and Pile-up on the Use of Social and Community Resources

The influence of self-esteem on the couples' use of social and community resources is difficult to determine. Regardless of whether the spouses have uniformly low or uniformly high self-esteem, they indicate a uniformly low use of social and community resources. This finding applies to the variable of pile-up as well. (See Appendix O) Since 90% (n = 18) of the couples uniformly used low social and community resource, and 10% had discrepant use of social and community resources, the question whether the instrument used to measure this variable taps the resources used by infertile Kenyan couples arises again.

Couples' Coping Effectiveness

Most couples, 60% (n = 12), did not have a consensus whether the methods they used were effective or not. One way of explaining this finding is that spouses may have their own perception of what constitutes effectiveness. It is possible that for some infertile spouses, coping effectiveness would be to find a cure to their infertility. Since most of the couples had been attending the clinic for an average of one year, that period of time is not long enough to find a cure. Therefore, where only one spouse is the infertile partner, we would have many couples who would have no consensus because the goal of having a cure to infertility is not achieved.

For some spouses, coping effectiveness may be to discover the cause of their infertility and to know whether it could be cured or not in order to persue other options. As evident from the high percentage of couples who did not have a consensus whether their coping strategies were effective or ineffective, many spouses had differing interpretations of coping effectiveness. The high percentage of couples with no consensus could also be a reflection on the timing of the study. Maybe, if the couples in the study were given three more years, they would have had a chance to pursue other options than just medical treatments; for example adoption and surrogate parenthood.

The Influence of Quality of Social and Community Resources and Pile-up on Coping Effectiveness

Quality of Social and Community Resources

The quality or the helpfulness of the social and community resources used by the spouses was used to determine coping effectiveness. As shown in Table 3, 40% of the couples, however, could not agree on the helpfulness or the quality of the resources they were using, while 20% agreed that the quality of the resources they were using was high and 40% agreed it was low. (See Appendix M). Those spouses with uniformly high quality social and community resources must have found them effective or they would not have used them as much. This explanation reflects what the data indicate, that, couples who with uniformly high quality social and community resources described their coping strategies as effective. (See Table 8, Appendix P).

Pile-up

The higher their pile-up, the more likely that spouses described their coping strategies as effective. Such a finding is possible if the high pile-up of demands were not infertility related, since most couples (90%) had uniformly low pile-up. Also since coping effectiveness is based on effective use of social and community resources, effective use of social and community resources by couples with uniformly high pile-up was effective in meeting such high demands. Therefore couples with uniformly high pile-up described their strategies as effective.

Possible subjective interpretation of what constitutes coping effectiveness by the spouses, makes it difficult to explain why 20% of couples with uniformly low pile-up described their strategies as effective while 100% of couples with uniformly low pile-up described them as ineffective. If the coping goal for couples with uniformly low pile-up was similar for both spouses, and that goal was to know whether the causes of their infertility were treatable or not, then it would be reasonable to expect them to describe their coping strategies as effective if their goal was met. However, the spouses' coping goal was unknown to me and therefore I cannot say whether it was met or not. Besides, I am not sure whether the spouses' interpretation of coping effectiveness was similar. Also, since coping effectiveness is based on effective use of social and community resources and all the couples in the study were seeking investigation and treatment of infertility, it is questionable whether the investigation and treatement of infertility was the most appropriate coping strategy for all the couples.

Influence of Couples' Definition of Infertility on Coping Effectiveness

As stated earlier, couples who uniformly define infertility as disruptive probably do so because the anticipated children would form an important aspect of the spouses' lives. Although discovery of infertility for such couples is certainly a blow, the fact that they were seeking investigation into the causes of infertility and maybe in treatment thereafter may have given them the feelings of being in control of the situation. Thus, it is not at all surprising that 44.4% of the couples who uniformly defined infertility as disruptive described their coping strategies as effective as opposed to 11.1% who described them as ineffective.

Although most Kenyan couples want to have children, not all couples organize their lives around having and caring for children. To such couples, infertility is not viewed as non-disruptive to the family's functioning. Couples who define infertility as non-disruptive probably described their strategies as effective because their goal in coping with infertility had been met.

Limitation of the Study

The following are considered to be the limitation of this study.

1. The number of the couples used (20) is not a large enough sample to determine fully the influence of independent variable on the dependent variables, and their interacting effects. For example it was difficult to determine how a couples' pile-up influences its definition of infertility. With a bigger sample, it may be possible to find interaction of variables through statistical analysis.
2. The study sample was made up of couples who were using one method of coping that is, seeking investigation into causes of infertility and get treatment thereafter. Seeking treatment to infertility is not the only way infertile couples cope with infertility.
3. The family related measurement instruments had to be adapted to fit the cultural context and the purpose of the study. Adaptation of an instruments may its reliability and validity.
4. As stated in the delimitations of the study, the sample used for this research was of convenient rather than a random sample, as such, the results should not be generalized to all infertile Kenyan couples.

Contribution to Research

This study has confirmed the fact that infertility is very personal in nature and most couples are very closed about it. Just as Menning (1977) found out about North American couples, Kenyan infertile couples are not ready to open up about infertility even if doing so may facilitate efficiency and hence effectiveness of their coping strategies. The study also found that infertile Kenyan couples take a long time before they accept the reality of infertility and that they are reluctant to look for alternative ways of becoming parents. This finding is similar to what happens among North American couples.

This study has contributed to research by testing the applicability of the coping process outlined in the double ABCX model to the situation of infertility. Adapting the instruments developed to measure stress and coping in North America to suit the Kenyan situation, and to measure the stressor of infertility as well as the problems of doing so, is yet another contribution to research.

Recommendations for Research

There are six main recommendations for future research.

1. A much larger and a random sample be used in order to have conclusive results on how the independent variables of existing resources, prior-strain, pile-up, quality of social and community resources influence the dependent variables of definition of infertility, use of social and community resources and coping effectiveness.

2. That a study sample include couples other than those seeking medical treatment so that other ways of coping with infertility can be determined.

3. The fact that virtually all societies are pronatalistic, makes infertility a cause for concern. This concern warrants development of measurement instruments specific to the stressor of infertility. Use of such instruments would in turn be helpful to determine differing cultural attitudes towards infertility.

4. Further testing of the cross-cultural applicability of the coping process advanced in the double ABCX model should be done as it relates to the stressor of infertility.

5. This study worked with one existing resource, namely self-esteem. Further research could look at how a combination of other existing resources such as education, health mastery and finances influence the definition and coping with infertility.

6. Further research on coping effectiveness should endeavour to avoid subjective interpretation of effectiveness. This could be done by clarifying what constitutes coping effectivenss for both the researcher and the participants and coming up with a measure that includes both the researcher's and participant's view of coping effectiveness.

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APPENDIXES

APPENDIX A

- Letters to the office of the President.
- Research Permit.
- Letter to the head of Gynacology and Obstetrics Department, Faculty of Medicine at Kenyatta National Hospital.
- Letter of introduction to the participants.
- Thankyou letters.
  - to the participants
  - to Professor Mati, Head of Gynecology and Obstetrics Department
  - to Dr. Senei, incharge of Infertility Clinic

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University of Alberta
Edmonton

Department of Family Studies
Faculty of Home Economics

Canada T6G 2H1

801 General Services Building, Telephone (403) 432-5771

December 20, 1985

The Office of the President,
Research Division,
Nairobi, Kenya.

TO WHOM IT MAY CONCERN:

Ms. Janerose Njue is working under my guidance and is writing a Master's Thesis on infertility and its effect on family interaction. She is a student in the Family Studies Department of the Faculty of Home Economics of the University of Alberta. She is competent to do research in this area and her proposed thesis has passed the University's and the Faculty's ethical review committee.

While in Kenya, Ms. Njue will be receiving assistance from Dr. Leah Marangu of Kenyatta University.

Ms. Njue's main research activity will be to collect data from twenty couples concerning the effect of infertility on the husband/wife relationships. The identities of all respondents will be protected.

I hope that you will give her permission to collect this data.

Sincerely,

Jason P. Montgomery, Ph.D.,
Professor,
Department of Family Studies.

JPM/ah

Department of Home Economics,
Kenyatta University,
P.O. Box 43844,
Nairobi,
Kenya.

14th January, 1986

The Office of the President,
Research Division,
P.O. Box 30510,
Nairobi.

TO WHOM IT MAY CONCERN

REF: RESEARCH CLEARANCE

The bearer of this letter is a student at University of Alberta in Canada. She is also a former student of Kenyatta University, and I have therefore been nominated to be one of her post graduate research supervisor. Mrs. Njue and I are therefore requesting research clearance permit to enable her to start her research rightaway. She has only three months here in Kenya to conduct her research. Any help given to her to help her start her investigation right away will be greatly appreciated.

Thank you.

Yours faithfully,

Prof. Leah T. Marangu
CHAIRMAN, HOME ECONOMICS DEPT.

LTM/ckm

REPUBLIC OF KENYA

RESEARCH CLEARANCE PERMIT

PAGE 2

THIS IS TO CERTIFY THAT:

Prof./Dr./Mr./Mrs./Miss Jane Rose Njue

of (Address) c/o Home Economics Dept. Kenyatta University, NAIROBI

has been permitted to conduct research in

.... Location,

.... District,

NAIROBI .... Province

on the topic "Coping strategies of Infertile Couples."

for a period ending 30th April, 1986

PAGE 3

Research Permit No. OP.13/001/16C 14/2

Date of issue 28th January 1986

Fee received Ksh.25/=

OFFICE OF THE

P.O. Box 30510,

C.A. MWANGO (Mrs)

Applicant's Signature

Permanent Secretary, Office of the President

NAIROBI

NOTES

1. Government Officers will not be interviewed without prior appointment.
2. No questionnaire will be used unless it has been approved.
3. You must report to the District Commissioner of the area before embarking on your research.
4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.
5. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice.

GPK 1509—2m—10/81

Department of Home Economics,
Kenyatta University
P.O. Box 43844,
Nairobi,
Kenya.

31st January, 1986

Professor J.K.G. Mati,
Department of Gynaecology & Obstetrics,
School of Health Sciences,
University of Nairobi.

Dear Professor Mati,

Jane Rose Njue is a former student of Kenyatta University College and of the Home Economics Department. She accompanied her husband to Edmonton, Canada in 1981. She has since joined the Home Economics Department of the University of Alberta, Edmonton, Canada. Jane Rose is now doing her Master's in family studies.

Jane Rose returned to Kenya early this year to collect her research data. Since Jane Rose has maintained a close contact with this department and especially with me, I have been asked by the family studies department if the University of Alberta, Edmonton, to be on her research committee and to be her supervisor while she is in Kenya.

The topic of Jane Rose's research is Coping Strategies of Infertile Kenyan Couples. She has already obtained a research permit from the office of the president. She hopes to get infertile couples through the department of Gynaecology & Obstetrics of the Kenyatta Hospital. She has only 3 months to conduct her research which does not give her much time.

I am hoping that your office will assist her in obtaining a sample. Any help which you can give her will be greatly appreciated.

Yours sincerely,

Prof. Leah T. Marangu
CHAIRMAN, HOME ECONOMICS DEPT.

LTM/ckm

University of Alberta
Edmonton
Canada T6G 2H1

Department of Family Studies
Faculty of Home Economics
801 General Services Building, Telephone (403) 432-5771

December 15, 1986

Dear Mr. & Mrs......

Infertility is one of the problems facing many couples here in Kenya as well as in other parts of the world. Many studies have been done to determine the causes of infertility. But as you know, many of these causes are often not of our own making. Yet infertility has to be dealt with by the couples involved in relation to themselves as well as the society which they are a part.

We are conducting a study to learn how couples who are faced with the problem of infertility deal with it. Such knowledge can benefit other couples throughout the world who are faced with a similar problem. Your cooperation is necessary so that we can have as accurate information as possible.

As part of our effort to understand how couples deal with infertility, you will be asked to answer some questions. Some of them may be personal and rather sensitive but please, be assured that any information that is given in these questionnaires will be treated as confidential. No other person except the researcher will have access to the information given. No names will appear on the form and, when reporting the findings, no names will be used. The information will be reported annonymously (without any names) and the original documents will be destroyed on completion of the study.

This study requires that both the husband and wife participate. Those couples who wish to participate have to give their consent by signing the Consent from and also to fill out the Demographic Information form so that we can know a little about you and also be able to contact you should the need arise. The consent form and the demographic information will be completed here but you will be given the other questionnaires to take home with you.

Your answers to these questions will help us understand how couples deal with infertility. Therefore, you are asked to read the questions carefully and understand them before you give your answers.

You are asked not to discuss your answers with your spouse and to answer the questions as confidentially as possible. One hundred Kenya shillings will be given to those couples who participate in the study. You are asked to return your completed forms to the clinic one week from the day you get them. You will receive your hundred shillings when you hand in your completed questionnaires to the researcher at the clinic.

Once the study has been completed, a short summary of the findings will be prepared. If you wish to have a copy of this summary sent to

...2

you, please indicate it on the appropriate section on the general information form.

For further information feel free to contact Jane Rose Njue at 560703, Nairobi. Call between 7 a.m. and 9 a.m. in the morning and after 6 p.m. in the evening.

Yours sincerely,

Jane Njue

Jane Rose Njue
Master's Candidate
University of Alberta

With

Dr. Jason P. Montgomery
Professor
Department of Family Studies
University of Alberta

and

Dr. L. T. Marangu
Chairperson
Home Economics
Kenyatta University

University of Alberta
Edmonton
Canada T6G 2H1

Department of Family Studies
Faculty of Home Economics
801 General Services Building, Telephone (403) 432-5771

January, 1986

Dear Mr. & Mrs.

We are very grateful that you chose to participate in this study. Through your contribution we have been able to learn different ways in which couples deal with the problem of infertility.

We are now in a better position to identify the factors that contribute to effective ways of dealing with infertility. Such knowledge may prove beneficial to other couples throughout the world who are faced with infertility.

We appreciate your cooperation. Again, thank you very much for working with us.

Yours truly,

Jane R Njue

Jane Rose Njue,
Master's Candidate,
University of Alberta

with

Jason P. Montgomery, Ph.D.,
Professor,
Department of Family Studies,
University of Alberta.

and

L.T. Marangu, Ph.D.,
Chairperson, Home
Economics Department,
Kenyatta University.

University of Alberta
Edmonton
Canada T6G 2H1

Department of Family Studies
Faculty of Home Economics
801 General Services Building, Telephone (403) 432-5771

Professor J. K. G. Mati
Department of Gynaecology and
Obstetrics
Faculty of Medicine
Kenyatta National Hospital
P.O. Box 30588
Nairobi

Dear Professor Mati:

I wish to convey my gratitude for making it possible for me to conduct research for my thesis at the Infertility Clinic. Both the faculty and the hospital staff were very cooperative.

I am very grateful indeed.

Yours sincerely,

Jane Njue

Jane Rose Njue

JRN/ka

University of Alberta
Edmonton
Canada T6G 2H1

Department of Family Studies
Faculty of Home Economics
801 General Services Building, Telephone (403) 432-5771

Dr. Senei
Department of Gynaecology and
Obstetrics
Faculty of Medicine
Kenyatta National Hospital
P.O. Box 30588
Nairobi

Dear Dr. Senei:

I wish to convey my gratitude for your help and great concern that you showed while I was conducting my research at the Infertility Clinic last year.

The part you played was certainly invaluable. Thankyou very much.

Yours sincerely,

Jane Njue

Jane Rose Njue

JRN/ka

Appendix B

Consent Form

Personal code number: __________

My spouse and I have agreed to participate in the study on coping strategies of infertile couples. I would like _____ not like _____ to receive a summary of results.

Signed: ________________________________

Appendix C

Demographic Information

Fill in the appropriate information in the spaces provided and a ( ) in the space provided to indicate your answer.

Personal Code Number: ____________

Name: ____

Address: ____

____

Telephone Number: ______________

Sex: ______________________

Age: ______________________

Highest level of education attained: ______________________

Religious Affliation:

Catholic ☐ Protestant ☐ Muslim ☐ Jewish ☐ S.D.A. ☐ Other ☐

Are you a born again Christian: Yes ☐ No ☐

Number of times married: 1 ☐ 2 ☐ 3 ☐ 4 ☐

Which marriage number, indicated above, do
you and the partner you visit the clinic with belong to? ____________

Number of years married to partner you visit the clinic with: ________

Indicate when clinic was joined: month ___ year ___

Appendix D

Culture-Free Self-Esteem Inventory for Adults

Personal Code No. _______

Please respond to each question by answering yes on the line to the left of the question if the question describes how you usually feel. If the question does not describe how you usually feel, answer no on the line to the left of the question. This is not a test, and there are no "right" or "wrong" answers.

_____ 1. Do you have only a few friends?

_____ 2. Are you happy most of the time?

_____ 3. Can you do most things as well as others?

_____ 4. Do you spend most of your free time alone?

_____ 5. Do you like being a male?
Do you like being a female?

_____ 6. Do most people you know like you?

_____ 7. Are you usually successful when you attempt important tasks or assignments?

_____ 8. Are you as intelligent as most people?

_____ 9. Do you feel you are as important as most people?

_____ 10. Are you easily depressed?

_____ 11. Would you change many things about yourself?

_____ 12. Are you as nice looking as most people?

_____ 13. Do many people dislike you?

_____ 14. Are you usually tense or anxious?

_____ 15. Are you lacking in self-confidence?

_____ 16. Do you often feel that you are no good at all?

_____ 17. Are you as strong and healthy as most people?

_____ 18. Are your feelings easily hurt?

_____ 19. Is it difficult for you to express your views or feelings?

_____ 20. Do you often feel ashamed of yourself?

_____ 21. Are other people generally more successful than you are?

_____ 22. Do you feel uneasy much of the time without knowing why?

_____ 23. Would you like to be as happy as others appear to be?

_____ 24. Are you a failure?

_____ 25. Do people like your ideas?

_____ 26. Is it hard for you to meet new people?

_____ 27. Are you often upset about something?

_____ 28. Do most people respect your views?

_____ 29. Are you more sensitive than most people?

_____ 30. Are you as happy as most people?

_____ 31. Are you definitely lacking initiative?

_____ 32. Do you worry a lot?

Appendix E

Adapted F-COPES: Definition Scale

Personal Code Number: ________

Respond to the following statement by the number of your response choice.

1. Strongly disagree
2. Moderately disagree
3. Neither agree nor disagree
4. Moderately agree
5. Strongly agree

When we first made a decision to deal with the problem of infertility, we did so:

1. (1) Knowing we have the strength within our own family to solve our problems.
2. (17) Knowing luck plays a big part in how well we are able to solve family problems.
3. (3) Knowing we have the power to solve major problems.
4. (28) Believing if we wait long enough, the problem will go away.
5. (22) Believing we can handle our own problems.
6. (26) Feeling that no matter what we do we will have difficulty handling the problem.
7. (13) Showing that we are strong.
8. Convincing ourselves that children are not as important as people believe and that we could do without them.
9. (11) Facing problems head-on and trying to get solutions right away.

Adapted F-COPES: Definition Scale (cont'd)

10. (15) Accepting stressful events as a fact of life.

11. Ignoring the problem of infertility altogether and pretending we did not have such a problem.

12. (24) Defining infertility in a more positive way so that we do not become too discouraged.

13. (19) Accepting that difficulties occur unexpectedly.

NOTE: The numbers in brackets indicate the item number on the F-COPES Scale.

Items 8 and 11 were an addition of this study.

Appendix F

Adapted F-COPES: Social Support Scale

Personal Code Number: ________

As a way of dealing with the problem of infertility, how many times (approximately) would you say you did the following: (Answer by circling the number 1-4 of your response).

1. (5) Seeking advice from relatives.

(1) none; (2) 1-5; (3) 5-10; (4) more than 10

Would you say doing this was helpful?

1	2	3	4
Extremely Helpful	Moderately Helpful	Minimally Helpful	Not Helpful

2. (2) Seeking encouragement from friends..

(1) none; (2) 1-5; (3) 5-10; (4) more than 10

Would you say doing this was helpful?

1	2	3	4
Extremely Helpful	Moderately Helpful	Minimally Helpful	Not Helpful

3. (1) Sharing difficulties with relatives.

(1) none; (2) 1-5; (3) 5-10; (4) more than 10

Would you say doing this was helpful?

1	2	3	4
Extremely Helpful	Moderately Helpful	Minimally Helpful	Not Helpful

4. (25) Asking relatives how they feel about problems we face.

(1) none; (2) 1-5; (3) 5-10; (4) more than 10

Would you say doing this was helpful?

1	2	3	4
Extremely Helpful	Moderately Helpful	Minimally Helpful	Not Helpful

Adapted F-COPES: Social Support Scale (cont'd)

5. (4) Seeking information and advice from persons in other families who have faced the same or similar problems.

(1) none; (2) 1-5; (3) 5-10; (4) more than 10

Would you say doing this was helpful?

1	2	3	4
Extremely Helpful	Moderately Helpful	Minimally Helpful	Not Helpful

6. (10) Asking neighbours for favors and assistance.

(1) none; (2) 1-5; (3) 5-10; (4) more than 10

Would you say doing this was helpful?

1	2	3	4
Extremely Helpful	Moderately Helpful	Minimally Helpful	Not Helpful

7. (16) Sharing concerns with close friends.

(1) none; (2) 1-5; (3) 5-10; (4) more than 10

Would you say doing this was helpful?

1	2	3	4
Extremely Helpful	Moderately Helpful	Minimally Helpful	Not Helpful

8. (29) Sharing problems with neighbours.

(1) none; (2) 1-5; (3) 5-10; (4) more than 10

Would you say doing this was helpful?

1	2	3	4
Extremely Helpful	Moderately Helpful	Minimally Helpful	Not Helpful

9. (20) Doing things with relatives (get-togethers, dinners, etc).

(1) none; (2) 1-5; (3) 5-10; (4) more than 10

Would you say doing this was helpful?

1	2	3	4
Extremely Helpful	Moderately Helpful	Minimally Helpful	Not Helpful

Adapted F-COPES: Social Support Scale (cont'd)

10. (14) Attending church services.

(1) none; (2) 1-5; (3) 5-10; (4) more than 10

Would you say doing this was helpful?

1	2	3	4
Extremely Helpful	Moderately Helpful	Minimally Helpful	Not Helpful

11. (23) Participating in church activities.

(1) none; (2) 1-5; (3) 5-10; (4) more than 10

Would you say doing this was helpful?

1	2	3	4
Extremely Helpful	Moderately Helpful	Minimally Helpful	Not Helpful

12. (27) Seeking advice from a minister (Church Minister).

(1) none; (2) 1-5; (3) 5-10; (4) more than 10

Would you say doing this was helpful?

1	2	3	4
Extremely Helpful	Moderately Helpful	Minimally Helpful	Not Helpful

13. (30) The two of us praying and having faith in God.

(1) none; (2) 1-5; (3) 5-10; (4) more than 10

Would you say doing this was helpful?

1	2	3	4
Extremely Helpful	Moderately Helpful	Minimally Helpful	Not Helpful

14. (21) Seeking professional counselling and help for family difficulties.

(1) none; (2) 1-5; (3) 5-10; (4) more than 10

Would you say doing this was helpful?

1	2	3	4
Extremely Helpful	Moderately Helpful	Minimally Helpful	Not Helpful

Adapted F-COPES: Social Support Scale (cont'd)

15. (6) Seeking assistance from community agencies and programs designed to help families in our situation.

(1) none; (2) 1-5; (3) 5-10; (4) more than 10

Would you say doing this was helpful?

1	2	3	4
Extremely Helpful	Moderately Helpful	Minimally Helpful	Not Helpful

16. (9) Seeking information and advice from the family doctor or gynaecologist.

(1) none; (2) 1-5; (3) 5-10; (4) more than 10

Would you say doing this was helpful?

1	2	3	4
Extremely Helpful	Moderately Helpful	Minimally Helpful	Not Helpful

17. (8) Accepting gifts and favours from neighbours.

(1) none; (2) 1-5; (3) 5-10; (4) more than 10

Would you say doing this was helpful?

1	2	3	4
Extremely Helpful	Moderately Helpful	Minimally Helpful	Not Helpful

NOTE: The numbers in brackets indicate the item number on the F-COPES Scale.

Appendix G

Adapted FILE: The Prior Strain Scale

Personal Code Number: ___________

Before you discovered the problem of infertility, would you say the following things were experienced in your family? Respond by answering: Yes, No or N/A (not applicable), in front of each statement.

1. (1) Husband spending much time away from home.
2. (2) Wife spending much time away from home.
3. (3) Your spouse appeared to have emotional problems.
4. (4) Your spouse appeared to depend on drinks more than she/he should.
5. (5) Conflict between you and your spouse.
6. (14) Disagreement with your spouse about your friends or activities.
7. (15) Number of problems or issues which don't get resolved.
8. (16) Number of tasks or chores which don't get done.
9. (17) Conflict with in-laws or relatives.
10. (19) Your spouse had an "affair".
11. (20) You had difficulty in resolving issues with a former or separated spouse.
12. (21) Difficulty with sexual relationship between you and your spouse.
13. (26) You took out a loan or refinanced a loan to cover expenses.
14. (29) Change in conditions (economic, political, weather) which hurts the family business.
15. (30) Your spouse started a new business.
16. (31) Both of you purchased or built a home.

Adapted FILE: The Prior Strain Scale (continued)

17. (32) Your spouse purchased a car or other major item.

18. (34) Strain on family "money" for medical/dental expenses.

19. (35) Strain on family "money" for food, clothing, electricity or gas, home care.

20. (38) Your spouse changed to a new job/career.

21. (39) Your spouse lost or quit a job.

22. (41) Your spouse started or returned to work.

23. (42) Your spouse stopped working for extended period (e.g., laid off, leave of absence, strike).

24. (43) Disatisfaction with your job/career.

25. (44) You had difficulty with people at work.

26. (45) Your spouse was promoted at work or given more responsibilities.

27. (46) You and your spouse moved to a new home.

28. (48) Your spouse became seriously ill or injured.

29. (50) A close relative or friend of the family became seriously ill.

30. (54) Responsibility to provide direct care or financial help to husband's and/or wife's parents.

31. (58) Death of husband's or wife's parent or close relative.

32. (59) A close friend of the family died.

33. (61) You "broke-up" a relationship with a close friend.

34. (65) A relative or friend moved into the house.

35. (66) Your spouse started school (or training program) after being away from school for a long time.

NOTE: The numbers in brackets indicate the item number on the FILE Scale.

Appendix H

Adapted FILE: The Consequence of Coping Scale

Personal Code Number: ________

Would you say the following things have happened as a result of trying to deal with the problem of infertility?

Indicate your response in front of each statement by answering Yes, No or NA (if the statement is not applicable to your situation).

1. (1) Increase of husband's time away from home.
2. (2) Increase of wife's time away from home.
3. (3) Your spouse appears to have emotional problems.
4. (4) Your spouse appears to drink a lot of alcoholic beverages.
5. (5) Increase in conflict between you and your spouse.
6. (6) Increase in arguments between you and your spouse.
7. (13) Increase in the amount of activities which you and your spouse are involved in.
8. (14) Increased disagreement with your spouse about your friends or activities.
9. (15) Increase in the number of problems or issues which don't get solved.
10. (16) Increase in the number of tasks or chores which don't get done.
11. (17) Increase conflict with in-laws or relatives.
12. (18) You and your spouse (former spouse) are separated or divorced.
13. (19) Your spouse has an "affair".
14. (21) Increased difficulty with sexual relationship between you and your spouse.

Adapted FILE: The Consequence of Coping Scale (continued)

15. (26) Took out a loan or refinanced a loan to cover increased expenses.
16. (33) Increasing financial debts due to over-use of loans.
17. (34) Increased strain on family "money" for medical expenses.
18. (38) Your spouse changed to a new job/career.
19. (39) Your spouse lost or quit a job.
20. (41) Your spouse started or returned to work.
21. (42) Your spouse stopped working for extended period.
22. (43) Decrease in satisfaction with job/career.
23. (46) Family moved to a new home or apartment.
24. (69) Physical or sexual violence in the home.
25. (70) Your spouse ran away from home.

NOTE: The numbers in brackets indicate the item number on the FILE Scale.

Appendix I

Subscales and Items of Adapted FILE

The subscales and items of Adapted FILE that are used in the Prior Strains Scale have also been used in The Consequence of Coping Scale. The items of the last subscale "Family Legal Violgations" is exclusive to The Consequence of Coping Scale.

I. Intra-family Strains
   Conflict 2*, 3*, 4*, 5*, 6, 14*, 15*, 16*, 17*
   Parenting 1* (In the study this item is not viewed as parenting strain but as a source of husband/wife conflict)
II. Marital Strains 19*, 20, 21*
III. Pregnancy and Childbearing: this subscale was excluded because all the couples in this study are infertile
IV. Finance and Business
   Family Finance: 26*, 31, 32, 33*, 34*, 35*
   Family Business: 28, 30
V. Work-Family Transitions and Strains
   Work Transitions: 39*, 41*, 42*
   Family Transitions and Work Strains: 38*, 43*, 44, 45, 46
IV. Illness and Family Care Strains
   Illness Onset and Childcare: 48, 50
   Dependency Strains: 54
VII. Losses: 56, 58, 59, 61
VIII. Transition In and Out: 65, 66
IX. Family Legal Violations: 69, 70

Appendix J

Coping Effectiveness Scale

Personal Code Number: __________

Respond to the following questions by circling the number of your response.

1. How successful do you think are the method(s) you used to deal with the problem of infertility?
   - a. very successful
   - b. successful
   - c. neither successful nor unsuccessful
   - d. unsuccessful
   - e. very unsuccessful
2. How satisfied are you with the solution to the problem of infertility?
   - a. very satisfied
   - b. satisfied
   - c. neither satisfied nor dissatisfied
   - d. dissatisfied
   - e. very dissatisfied

Appendix K

Table 1.

Spouse Scores on All Variables in the Study

ID. No.	Self-esteem		Prior Strain		Consequence of Coping with Infertility		Pile-up		Definition of Infertility		Total Use of Social Support		Total Quality of of Social Support		Coping Effectiveness	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
1	25	5	7	23	5	12	12	35	38	28	9	8	11.2	9	5	7
2	22	14	15	23	13	14	28	37	38	42	12	12	13	13	6	7
3	28	25	0	0	0	0	0	0	43	47	8	9	10	10	5	6
4	16	18	12	11	11	13	23	24	37	40	10	10	14	13	5	6
5	22	18	5	6	2	0	7	6	43	43	9	12	10	16	5	5
6	12	10	21	27	14	13	35	40	36	36	10	12	11	13	6	6
7	13	5	9	11	11	11	21	23	38	44	10	11	13	14	7	4
8	22	11	10	11	14	12	24	23	41	36	10	11	14	16	7	8
9	9	12	21	8	14	15	38	23	50	47	9	9	10	11	3	7
10	25	19	11	14	10	11	21	25	49	45	12	12	11	12	7	4
11	20	26	7	6	10	14	18	20	53	48	14	8	15	9	6	4

Table 1. (cont'd.)

Spouse Scores on All Variables in the Study

ID. No.	Self-esteem		Prior Strain		Consequence of Coping with Infertility		Pile-up		Definition of Infertility		Total Use of Social Support		Total Quality of of Social Support		Coping Effectiveness	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
12	26	25	12	13	11	11	23	24	45	43	9	13	11	16	4	7
13	15	8	12	11	16	11	28	22	29	40	7	9	7	10	4	7
14	26	21	16	17	8	11	24	28	46	54	7	10	9	12	7	5
15	14	17	11	18	17	13	28	31	35	43	12	10	15	13	6	6
16	23	21	7	9	9	6	17	16	53	51	6	7	9	8	6	5
17	23	22	10	5	10	12	20	17	42	41	7	10	8	13	6	6
18	25	26	2	0	0	0	2	0	48	50	11	10	12	15	3	4
19	24	22	11	14	12	14	23	28	53	47	9	12	9	14	9	8
20	22	20	13	11	5	4	18	15	51	48	6	10	9	11	6	7

NOTE: These figures are rounded to the nearest whole number.
Due to 5 missing responses in the variables of prior strain, consequences of coping and pile-up, the score was prorated by multiplying the sum by the total number of items divided by the number of non-missing items.

Appendix L

Table 2.

Summary of Spouse Scores on All Variables

Variables	Highest Possible Score	Minimum		Maximum		Mean		Standard	
		M	F	M	F	M	F	M	F
Self-esteem	32	9	5	28	26	20.6	17.4	5.6	6.7
Prior Strains	35	0	0	21	27	10.7	12.0	5.2	7.1
Strain as Consequence of Coping With Infertility	25	0	0	17.4	14.6	9.8	9.9	9.7	4.9
Quality of Social and Community Resources	18	6.5	8.2	15.3	16.0	11.0	12.3	2.4	2.5
Pile-up	60	0	0	38.4	40	20.5	21.9	6.9	10.9
Definition of Infertility	65	29	28	53	54	43.4	43.7	2.0	5.6
Adaptive Coping Strategy or Use of Social and Community Resources	18	5.8	6.4	13.7	13.8	9.3	12.3	1.7	2.9
Coping Effectiveness	10	3	4	9	8	5.7	5.6	1.5	1.3

Note: For dependent variables, the higher the score, the higher the variable.
In definition of infertility, the high scores indicate disruptiveness of family functioning.

Appendix M

Table 3.

Percentage and Number of Couples in the Dependent Variable Categories

Variables	% and Number of Couples		
Definition of Infertility	Uniformly Disruptive 40 (8)	Uniformly Non-disruptive 45 (9)	Non-Consensus 15 (3)
Use of Social and Community Resources	Uniformly High	Uniformly Low 90 (18)	Discrepant 10 (2)
Coping Effectiveness	Uniformly Effective 10 (2)	Uniformly Ineffective 30 (6)	Non-Consensus 60 (13)
Quality of Social and Community Resources*	Uniformly High 20 (4)	Uniformly Low 40 (8)	Discrepant 40 (8)

*Not dependent but an independent variable.

Appendix N

Table 4.

Number and Percentage of Couples in Self-Esteem Categories In Relation to Their Definition of Infertility

	Count Row % Column %	Definition of Infertility			
		Disruptive	Non-Consensus	Non-Disruptive	Row Total
Self-Esteem	Uniformly Low	4 66.7 44.4	1 16.7 33.3	1 16.7 12.5	6 30.0
	Discrepant	4 44.4 44.4		5 55.6 62.5	9 45.0
	Uniformly High	1 20.0 11.1	2 40.0 66.7	2 40.0 25.0	5 25.0
	COLUMN TOTAL	9 45.0	3 15.0	8 40.8	20 100

Table 5.

Number and Percentage of Couples in Prior Strain Categories In Relation to Their Definition of Infertility

	Count Row % Column %	Definition of Infertility			
		Disruptive	Non-Consensus	Non-Disruptive	Row Total
Prior Strain	Uniformly Low	6 37.5 66.7	3 18.8 100.0	7 43.8 87.5	16 80.0
	Discrepant	2 66.7 22.0		1 33.3 12.5	3 15.0
	Uniformly High	1 100.0 11.1			1 5.0
	COLUMN TOTAL	9 45.0	3 15.0	8 40.0	20 100

Appendix O

Table 6.

Number and Percentages of Couples in Self-Esteem Categories in Relation to Their Use of Social and Community Resources

	Count Row % Column %	Use of Social and Community Resources			
		Uniformly Low	Discrepant	Uniformly High	Row Total
Self-Esteem	Uniformly Low	6 100.0 33.3			6 30.0
	Discrepant	8 88.9 44.4	1 11.1 50.0		9 45.0
	Uniformly High	4 80.0 22.2	1 20.0 50.0		5 25.0
	Column Total	18 90.0	2 10.0		20 100.0

Table 7.

Number and Percentages of Couples in Pile-Up Categories in Relation to Their Use of Social and Community Resources

	Count Row % Column %	Use of Social and Community Resources			
		Uniformly Low	Discrepant	Uniformly High	Row Total
Amount of Pile-up	Uniformly Low	13 86.7 72.2	2 13.8 100.0		15 75.0
	Discrepant	4 100.0 22.2			4 20
	Uniformly High	1 100.0 5.6			1 5.0
	Column Total	18 90.0	2 10.0		20 100.0

Appendix P

Table 8.

Number of Percentages of Couples in Pile-Up Categories In Relation to Their Coping Effectiveness

	Count Row % Column %	Coping Effectiveness			
		Ineffective	Non-Consensus	Effective	Row Total
Pile-up	Uniformly Low	2 13.3 100.0	10 66.7 83.3	3 20.0 50.0	15 75
	Discrepant		2 50.0 16.7	2 50.0 33.3	4 20.4
	Uniformly High			1 100.0 16.7	1 5.0
	Column Total	2 10.0	12 60.0	6 30.0	20 100.0

Table 9.

Number of Percentages of Couples in Quality of Social and Community Resources Categories in Relation to Their Coping Effectiveness

	Count Row % Column %	Coping Effectiveness			
		Ineffective	Non-Consensus	Effective	Row Total
Quality of Social and Community Resources	Uniformly Low		7 87.5 58.3	1 12.5 16.7	8 40.0
	Discrepant	2 25.0 100.0	3 37.5 25.0	3 37.5 50.0	8 40.0
	Uniformly High		2 50.0 16.7	2 50.0 33.3	4 20.0
	Column Total	2 10.0	12 60.0	6 30.0	20 100.0

APPENDIX Q

Table 10.

Influence of Coping Couples Definition on Coping Effectiveness

Count Row % Column %	Coping Effectiveness			
	Ineffective	Non-Consensus	Effective	Row Total
Uniformly Disruptive	1 11.1 50.0	4 44.4 33.3	4 44.4 66.7	9 45.0
Non-Consensus		3 100.0 25.0		3 15.0
Uniformly Non-Disruptive	1 12.5 50.0	5 62.5 41.6	2 25.0 33.3	8 40.0
Column Total	2 10.0	12 60.0	6 30.0	20 100.0